King County
Geographic Information System

2008
Operations and Maintenance
Plan

King County

Document History

Date	Who	Description
12/11/07	KCGIS Technical Committee	Document completed and discussed at the KCGIS Technical Committee meeting.
1/22/08	KCGIS Technical Committee	KCGIS Technical Committee consensus vote for submitting document to the KCGIS Oversight Committee.

Table of Contents

1 Introduction

This document describes the state of the King County Geographic Information System (KCGIS) as of December 2007. It represents the culmination of a collaborative effort by personnel throughout the County to delineate the 2008 GIS work programs for participating agencies. GIS is critical to the business of King County, as demonstrated in its use for property appraisal, permit review, emergency services, human services, election services, wastewater facilities planning, natural resource and parks management, waste management, public health, road maintenance, transit services, airport management, crime analysis, budget development, policymaking, legislative support, and growth management. This document provides the details of how GIS supports those and many other business functions.

The year 2008 marks the beginning of the seventh full year of operation of KCGIS under its current governance structure. Since the spring of 2001 enterprise GIS functions within King County have been organized under a single point of accountability – the Department of Natural Resources and Parks (DNRP) Director. At that time a coordinated management structure was established to govern enterprise GIS at both a technical and policy oversight level. The result is a streamlined, cost-effective organization for the performance of King County's GIS activities.

A key mission of KCGIS is to generate an annual comprehensive work plan (known as the Production Operations and Maintenance Plan, or O&M Plan). This document is the 2008 edition of that work plan. It builds on the experience of the 2002 -2007 O&M plans. The plan includes information on the five major components of any GIS - hardware, software, data, applications and staff. Each of these is addressed in the context of current structures and planned changes for fiscal year 2008. The result is a comprehensive picture that details the King County GIS work program. As in previous years, the 2008 O&M Plan provides lists of data and applications, descriptions of current work tasks, details of agency GIS programs, and information on GIS budgets.

The document is organized in four parts:

- Introduction
- Organization
- Priority Initiatives
- Agency Work Plans

Four Appendices present supporting information:

- Appendix A – Summary Information
- Appendix B – KCGIS Center Services
- Appendix C – Committees
- Glossary

The Organization section details how GIS efforts are organized within the County. The Priority Initiatives section provides information on the GIS endeavors identified through the work of the governance committees as having significant benefit and hence high priority for accomplishment. These priorities change each year, with some new initiatives added and some initiatives carrying over from year to year until they are completed. The Agency Work Plans section provides information on the strengths, weaknesses, challenges and goals lying before the constituent agencies as they implement and manage their GIS programs. This section also includes a listing of each agency's major GIS projects. Appendix A provides a concise and orderly assessment of each agency's GIS staffing, budget, licensed software, data, applications, and servers. Appendix B summarizes the KCGIS Center's role and its functions in the enterprise GIS. Descriptive information on the various committees that make up the governance structure is contained in Appendix C. The Glossary provides a convenient reference for terms (particularly specialized terms) used in the plan.

A list of critical tasks is distilled from the plan by the Technical Committee annually and then distributed as a separate document. The "2008 O&M Work Task List" will serve as a core working document to identify and track the progress of GIS work program items throughout the year.

KCGIS embodies a rich source of data, a unique set of innovative applications, and a group of highly skilled and motivated professionals serving the public's geographic needs. This resource is essential to the diverse business functions of King County, and the 2008 O&M Plan describes it fully. Support from the County Executive, management, and staff has provided a solid foundation for KCGIS to continue to grow and provide high-quality, cost-effective, and valued service to the citizens of King County. The annual King County GIS O&M Plan continues to be very much a working document, not a plan to sit on the shelf. The information in this document will be used to refine King County GIS through cooperation, coordination, communication, and consensus.

A highlight of 2007 was the acquisition of aerial imagery based on cost sharing agreements with outside agencies and between various departments within King County. This imagery data will be made available to the entire King County government in 2008 and will be shared with King County cities, who will, in turn, become partners in the funding of future imagery acquisition.

Many of the priority initiatives in 2008 build upon those begun in 2007. For example, processes for maintaining, updating, and accessing the extensive addressing data collected in 2006 and 2007 will be developed in 2008. The successful collaboration with King County cities to improve cadastral data will be continued and expanded to new cities. TNET data will be updated, and applications will be migrated to use the updated data.

New initiatives will also be undertaken to develop tools to enhance work efficiencies. Prototypes of web-based mapping tools and Open Source applications will be developed and tested to determine the viability of such approaches. Innovation and improved accuracy of geographic data are important themes for KCGIS. The mutual benefits to be gained from collaboration, cooperation, and consensus should allow KCGIS to achieve the challenging goals for 2008. Adequate funding is always at risk, but the value of GIS in meeting the business needs of the county is immense. KCGIS is prepared for both the challenges and opportunities ahead in 2008.

2 Organization

The King County Geographic Information System (KCGIS) is a coordinated program of county agencies working in partnership with the KCGIS Center, the county's provider of enterprise GIS services. The program is aligned to meet the County Executive's vision for King County's GIS to be the premier provider of GIS services in the region.

The Director of the Department of Natural Resources and Parks (DNRP) is the responsible authority designated by the County Executive as accountable for the KCGIS program. Aiding the DNRP director in governance of the program are technical and oversight committees, which include representation from 17 agencies, as well as the KCGIS Center.

The KCGIS program's enterprise operations are housed in the KCGIS Center, which is structured as an internal service fund managed by DNRP. The enterprise operations provided by the KCGIS Center are funded by over 30 county agencies based on a sophisticated cost allocation model. Details about the funding model can be found at www.metrokc.gov/gis/kb/Content/KCGISCenter_Finances.htm on the KCGIS Center website. Business specific GIS services are provided by agency GIS units, however when service by an agency GIS unit is not feasible or practical, the KCGIS Center offers GIS client services on a cost reimbursable basis.

The KCGIS program is based on the principle that extensive coordination and collaboration occurs between GIS units in the county. This interaction includes most aspects of GIS from hardware and software, to data, applications, analysis, reporting, and display. The program is also based on the premise that data are the core asset of KCGIS and every effort is made to freely share and systematically improve the county's GIS data.

The sections that follow in this chapter outline the roles and responsibilities of the various participants in the KCGIS program. The chart on the following page provides an illustration of the KCGIS governance structure and relationships of the participants.

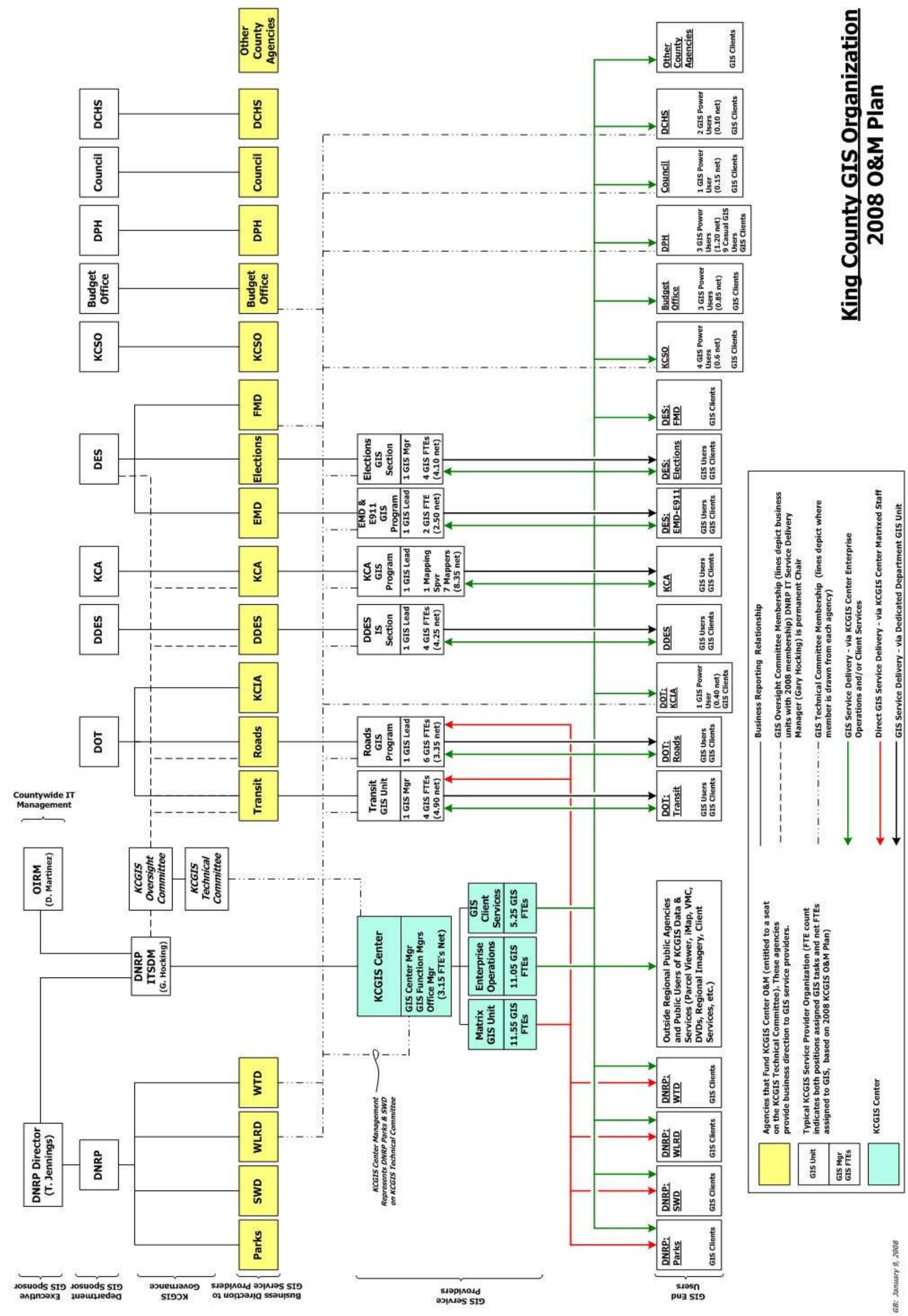
2.1 DNRP Director

The Department of Natural Resources and Parks (DNRP) Director is the executive sponsor of the KCGIS program and is accountable to the County Executive for the overall performance of the program. The DNRP Director has delegated day-to-day monitoring of the KCGIS program to the DNRP IT Service Delivery Manager who also serves as chair of the KCGIS Oversight Committee. The DNRP IT Service Delivery Manager provides reports on KCGIS activities and status to the DNRP Director's Office. The DNRP Director has responsibility to decide issues that cannot be resolved by the KCGIS Oversight Committee, to negotiate funding and develop revenues to support the KCGIS program, and to report program progress to the County Executive's Office.

2.2 KCGIS Oversight Committee

The KCGIS Oversight Committee is a chartered group responsible for setting the direction of the KCGIS program. Committee responsibilities include:

- Review and approve the annual KCGIS Operations and Maintenance Plan.
- Review and approve standards for policy and technical direction as recommended by the KCGIS Technical Committee.
- Address issues regarding enforcement and use of standards and best practices escalated from the KCGIS Technical Committee.
- Provide an annual report on KCGIS work program status to the Technology Management Board.
- Review and approve the annual budget for the KCGIS Center.
- Develop and recommend the cost allocation and funding model for the KCGIS Center.
- Make recommendations to the Technology Management Board as needed.


King County GIS Organization
2008 O&M Plan
Executive GIS Sponsor
Department GIS Sponsor
KCGIS Governance
Business Direction to GIS Service Providers
GIS Service Providers
GIS End Users
Countywide IT Management
DNRP Director (T. Jennings)
OIRM (D. Martinez)
DNRP
DNRP ITSDM (G. Hocking)
KCGIS Oversight Committee
KCGIS Technical Committee
DOT
DDES
KCA
DES
KCSO
Budget Office
DPH
Council
DCHS
Parks
SWD
WLRD
WTD
Transit
Roads
KCIA
EMD
Elections
FMD
Other County Agencies
KCGIS Center Management Represents DNRP Parks & SWD on KCGIS Technical Committee
KCGIS Center
GIS Center Mgr
GIS Function Mgrs
Office Mgr
(3.15 FTE's Net)
Matrix GIS Unit
11.55 GIS FTEs
Enterprise Operations
11.05 GIS FTEs
GIS Client Services
5.25 GIS FTEs
Transit GIS Unit
1 GIS Mgr
4 GIS FTEs (4.90 net)
Roads GIS Program
1 GIS Lead
6 GIS FTEs (3.35 net)
DDES IS Section
1 GIS Lead
4 GIS FTEs (4.25 net)
KCA GIS Program
1 GIS Lead
1 Mapping Spvr
7 Mappers (8.35 net)
EMD & E911 GIS Program
1 GIS Lead
2 GIS FTE (2.50 net)
Elections GIS Section
1 GIS Mgr
4 GIS FTEs (4.10 net)
DNRP: Parks
GIS Clients
DNRP: SWD
GIS Clients
DNRP: WLRD
GIS Clients
DNRP: WTD
GIS Clients
Outside Regional Public Agencies and Public Users of KCGIS Data & Services (Parcel Viewer, iMap, VMC, DVDs, Regional Imagery, Client Services, etc.)
DOT: Transit
GIS Users
GIS Clients
DOT: Roads
GIS Users
GIS Clients
DOT: KCIA
1 GIS Power User (0.40 net)
GIS Clients
DDES
GIS Users
GIS Clients
KCA
GIS Users
GIS Clients
DES: EMD-E911
GIS Users
GIS Clients
DES: Elections
GIS Users
GIS Clients
DES: FMD
GIS Clients
KCSO
4 GIS Power Users (0.6 net)
GIS Clients
Budget Office
3 GIS Power Users (0.85 net)
GIS Clients
DPH
3 GIS Power Users (1.20 net)
9 Casual GIS Users
GIS Clients
Council
1 GIS Power User (0.15 net)
GIS Clients
DCHS
2 GIS Power Users (0.10 net)
GIS Clients
Other County Agencies
GIS Clients
Agencies that Fund KCGIS Center O&M (entitled to a seat on the KCGIS Technical Committee). These agencies provide business direction to GIS service providers.
GIS Unit
GIS Mgr
GIS FTEs
Typical KCGIS Service Provider Organization (FTE count indicates both positions assigned GIS tasks and net FTEs assigned to GIS, based on 2008 KCGIS O&M Plan)
KCGIS Center
Business Reporting Relationship
GIS Oversight Committee Membership (lines depict business units with 2008 membership) DNRP IT Service Delivery Manager (Gary Hocking) is permanent Chair
GIS Technical Committee Membership (lines depict where member is drawn from each agency)
GIS Service Delivery - via KCGIS Center Enterprise Operations and/or Client Services
Direct GIS Service Delivery - via KCGIS Center Matrixed Staff
GIS Service Delivery - via Dedicated Department GIS Unit
GB: January 9, 2008

- Resolve issues escalated from the KCGIS Technical Committee.

KCGIS Oversight Committee membership consists of a single representative from each of the following agencies: Department of Natural Resources and Parks, Department of Transportation – Road Services Division, Department of Transportation – Transit Division, Department of Development and Environmental Services, and Department of Assessments. Members of the KCGIS Oversight Committee representing these agencies have the option to appoint one temporary member for a one-year term from other agencies or programmatic areas that have significant involvement in GIS. For 2008 the KCGIS Oversight Committee has designated the Department of Executive Services to fill the temporary seat. Members of the KCGIS Oversight Committee must have authority for budget approval and policy decisions of GIS programs within their agency. Members of the KCGIS Oversight Committee may not serve on the KCGIS Technical Committee at the same time. The DNRP IT Service Delivery Manager, serves as the DNRP representative and permanent chair of the KCGIS Oversight Committee. Issues that cannot be resolved by the KCGIS Oversight Committee are escalated to the DNRP Director for a decision. The KCGIS Oversight Committee is required to meet at least once per quarter.

The KCGIS Oversight Committee charter and 2007 and 2008 committee member listings can be found in Appendix C.

2.3 KCGIS Technical Committee

The KCGIS Technical Committee is a chartered committee accountable to the KCGIS Oversight Committee. Responsibilities of the KCGIS Technical Committee include:

- Coordinate KCGIS Center and agency GIS unit work programs and develop an annual KCGIS Operations and Maintenance Plan for review and approval by the KCGIS Oversight Committee.
- Recommend policy for GIS technology to the KCGIS Oversight Committee.
- Monitor the use of approved GIS standards and best practices and escalate enforcement issues to the KCGIS Oversight Committee.
- Inventory existing GIS data and applications and coordinate data and application development efforts.
- Provide a forum for discussion of GIS technical issues and address programmatic issues.
- Educate agencies about the value GIS will add to business practices.
- Develop and recommend GIS standards and best practices for the KCGIS program to the KCGIS Oversight Committee.
- Prepare quarterly reports on the status of the KCGIS program.

Membership in the KCGIS Technical Committee is based on the presence of a GIS work program within an agency. Presence of a work program is defined as an agency utilizing at least one license to run desktop GIS software. Each agency with a discrete GIS work program is granted one seat on the committee. This chart lists the 17 agencies eligible for representation on the committee in 2007. One additional seat on the committee is allocated to the KCGIS Center.

Assessments	DES-E911 Program	DOT-Airport
Budget Office	DDES	DOT-Road Services
Council	DNRP-Parks and Recreation	DOT-Transit
DCHS	DNRP-SWD	Public Health
DES-Facilities Management	DNRP-WTD	Sheriff's Office
DES-REALS	DNRP-WLRD	KCGIS Center

The membership of the KCGIS Technical Committee is reviewed and updated annually. A responsible authority within each participant agency appoints the KCGIS Technical Committee member. Committee members may not serve on both the KCGIS Technical Committee and the KCGIS Oversight Committee simultaneously. The KCGIS Technical Committee elects a chair and vice chair annually. Issues that cannot be resolved by the KCGIS Technical Committee are escalated to the KCGIS Oversight Committee. The KCGIS Technical Committee is required to meet at least once per month.

At its discretion the KCGIS Technical Committee may create work groups for detailed analysis of significant organizational and technical issues. Details about current work groups can be found in Appendix C. Participation in a work group is not restricted to members of the KCGIS Technical Committee. The work groups are created to accomplish a set of objectives and the KCGIS Technical Committee reorganizes or disbands the work groups as needed.

The KCGIS Technical Committee charter and the 2007 and 2008 committee membership can be found in Appendix C.

2.4 Agencies

All aspects of the KCGIS program are addressed through the consolidated governance structure of the technical and oversight committees, and are resolved by active agency participation. Agency GIS programs work together formally via the KCGIS Technical Committee, and informally via user groups, work groups, and ad hoc committees. An agency's responsibilities to the KCGIS program include:

- Develop and submit an annual work plan for review and inclusion in the KCGIS Operations and Maintenance Plan.
- Develop and maintain GIS data necessary to support agency business needs, and when compatible, the needs of other data stakeholders.
- Articulate agency GIS business needs to the KCGIS community.
- Comply with GIS standards and best practices approved by the KCGIS Oversight Committee.
- Ensure all agency data appropriate for sharing is integrated into the KCGIS Spatial Data Warehouse (SDW).
- Actively seek opportunities for cross-agency collaboration on data and application projects.
- Ensure data development and data maintenance tasks are quality controlled and are completed on schedule.
- Ensure agency GIS personnel maintain sufficient levels of professional expertise.
- Work cooperatively in support of the regional KCGIS services vision.
- Actively participate on KCGIS committees and work groups.

2.5 KCGIS Center

The KCGIS Center provides enterprise services for the KCGIS program, fee-based client services to internal and external customers, and dedicated matrix staffing to county agencies on an annual contractual basis. The KCGIS Center work program is developed under the guidance of the KCGIS governance committees. The mechanism to accomplish this is the annual Operations and Maintenance (O&M) Plan that is developed by the KCGIS Technical Committee and approved by the KCGIS Oversight Committee.

Responsibilities of the KCGIS Center include:

- Manage the KCGIS Spatial Data Warehouse infrastructure.
- Provide data coordination services to ensure that KCGIS data development and data maintenance activities are performed in an efficient manner and occur as planned.

- Facilitate integration of quality controlled agency data into the KCGIS Spatial Data Warehouse.
- Report data maintenance issues and concerns to the KCGIS Technical Committee.
- Set up and manage data acquisition and data sharing agreements with external agencies and coordinate response to external data requests.
- Provide tools for developing, maintaining, and accessing KCGIS metadata.
- Provide public access to GIS data.
- Maintain a record of and comply with the GIS standards and best practices approved by the KCGIS Oversight Committee.
- Provide contract administration for GIS software and consultant services.
- Actively participate on KCGIS committees.
- Market regional GIS services in coordination with King County agencies.
- Provide GIS training services to professionals and end-users.
- Provide a single point of contact for access to KCGIS client services.
- Provide GIS expertise to agencies as requested.
- Coordinate the evaluation of technical options with agency GIS programs and the KCGIS Technical Committee.
- Implement and maintain the architectural and system standards approved by the KCGIS Oversight Committee.
- Maintain a common application development environment.

2.6 KCGIS Budget and Funding

This section presents two tables that provide an overview of budgets and funding mechanisms for the KCGIS program.

This table outlines the approved 2008 budgeted funding for operation of the KCGIS Center. It shows each agency's contribution to the O&M funding model, as well as each agency's projected budget for fee-based client services. Also included are the allocations to fund the Matrix GIS Staff Unit that provides dedicated KCGIS Center staff to work programs in DNRP and DOT.

KCGIS Center 2008 Budget and Revenue Allocations				
Agency Name (LowOrg)[1]	O&M Funding Model Share	Budgeted Client Services	Matrix GIS Staff Budget	Total Agency GIS Center Budget (55026)[2]
Department of Assessments (1599)	153,444	62,164	0	215,608
DAJD: Adult (7217)	24,380	0	0	24,380
DAJD: Juvenile (7546)	4,304	0	0	4,304
DCHS (6531)	71,380	23,064	0	94,444
DDES (3419)	231,140	7,440	0	238,580
DES: Administration (1501)	24,657	0	0	24,657
DES: EMD: RECC (2991)	3,012	15,531	0	18,543
DES: EMD: E911 (7543)	243,382	14,880	0	258,262
DES: Finance (6801)	3,683	0	0	3,683
DES: HR (1485)	12	0	0	12
DES: HR: Safety & Claims (7043)	5	0	0	5
DES: HR: Benefits: HRIS (3050M)	1	0	0	1
DES: ITS (2542M)	2,093	7,440	0	9,533

KCGIS Center 2008 Budget and Revenue Allocations				
Agency Name (LowOrg)[1]	**O&M Funding Model Share**	**Budgeted Client Services**	**Matrix GIS Staff Budget**	**Total Agency GIS Center Budget (55026)[2]**
DES: I-Net (4901)	0	3,720	0	3,720
DES: Records O & M (1440)	2,548	0	0	2,548
DES: Records & Elections (7250)	56,310	7,719	0	64,029
DES: FMD (1519)	65,990	23,064	0	89,054
DNRP: Director's Office (3110)	24,818	0	0	24,818
DNRP: WTD (7200)	225,838	43,803	449,462	719,103
DNRP: WLRD (2704)	256,822	0	559,109	815,931
DNRP: Parks Division (8703)	56,032	29,388	131,554	216,973
DNRP: Parks Div Capital (316008)	0	0	32,888	32,888
DNRP: SWD (1454)	74,668	0	131,845	206,513
DPH (Dept: 0800; LowOrg: 8011)	80,050	13,578	0	93,628
DPH: EMS (5804)	25,016	4,743	0	29,759
DOT: Director's Office (5011M)	24,509	0	0	24,509
DOT: Roads (1665)	205,472	0	140,583	346,055
DOT: Transit (5130M)	215,631	0	140,583	356,214
DOT: Airport (1765)	45,809	23,808	0	69,617
DOT: Fleet (1756)	0	0	0	0
Sheriff's Office (1933)	57,036	0	0	57,036
County Council (1041)	52,840	23,064	0	75,904
Budget Office (1063)	49,581	30,690	0	80,271
Prosecuting Attorney's Office (5028)	4,373	23,064	0	27,437
Boundary Review Board (1596)	0	11,532	0	11,532
Judicial Administration (1565)	2,494	0	0	2,494
Superior Court (5182)	2,045	0	0	2,045
District Court (1593)	0	0	0	0
Contingent Billing to KC Agencies	0	134,850	0	134,850
Billings to Agencies Outside KC	0	197,977	0	197,977
Total:	2,289,378	701,519	1,586,024	4,576,920

Table Notes:

1. The LowOrgs, Cost Centers, or projects indicated are those that the Budget Office reported for KCGIS Center funding for 2008 budget expenses.
2. Agency GIS expense budgets are generally found in account 55026.

This table provides a comprehensive view of how GIS services are typically provided to each county agency by the KCGIS Center, the agency GIS units, and by outside vendors, along with the funding mechanisms for obtaining those services.

2008 King County GIS Services Funding Mechanism Summary:					
GIS Service Recipients:	**GIS Service Providers:**				
	KCGIS Center Costs			**Agency GIS Unit[4]**	**Outside Vendors[5]**
	O&M[1]	**Client Service[2]**	**Matrix Staff[3]**		
Department of Assessments	Fixed periodic I/F Transfer	Service specific I/F transfer		Budgeted & paid internally	Billed to fund
DAJD: Adult	Fixed periodic I/F Transfer				Billed to fund

2008 King County GIS Services Funding Mechanism Summary:					
GIS Service Recipients:	**GIS Service Providers:**				
	KCGIS Center Costs			**Agency GIS Unit[4]**	**Outside Vendors[5]**
	O&M[1]	**Client Service[2]**	**Matrix Staff[3]**		
DAJD: Juvenile	Fixed periodic I/F Transfer				Billed to fund
DCHS	Fixed periodic I/F Transfer	Service specific I/F transfer			Billed to fund
DDES	Fixed periodic I/F Transfer	Service specific I/F transfer		Budgeted & paid internally	Billed to fund
DES: Administration	Fixed periodic I/F Transfer				Billed to fund
DES: EMD: RECC	Fixed periodic I/F Transfer	Service specific I/F transfer			Billed to fund
DES: EMD: E911	Fixed periodic I/F Transfer	Service specific I/F transfer		Budgeted & paid internally	Billed to fund
DES: Finance	Fixed periodic I/F Transfer				Billed to fund
DES: HR	Fixed periodic I/F Transfer				Billed to fund
DES: HR: Safety & Claims	Fixed periodic I/F Transfer				Billed to fund
DES: HR: Benefits: HRIS	Fixed periodic I/F Transfer				Billed to fund
DES: ITS	Fixed periodic I/F Transfer	Service specific I/F transfer			Billed to fund
DES: I-Net		Service specific I/F transfer			Billed to fund
DES: Records O & M	Fixed periodic I/F Transfer				Billed to fund
DES: Records & Elections	Fixed periodic I/F Transfer	Service specific I/F transfer		Budgeted & paid internally	Billed to fund
DES: Facilities Management Div	Fixed periodic I/F Transfer	Service specific I/F transfer			Billed to fund
DNRP: Director's Office	Fixed periodic I/F Transfer				Billed to fund
DNRP: WTD	Fixed periodic I/F Transfer	Service specific I/F transfer	Fixed periodic I/F Transfer		Billed to fund
DNRP: WLRD	Fixed periodic I/F Transfer		Fixed periodic I/F Transfer		Billed to fund
DNRP: Parks Division	Fixed periodic I/F Transfer	Service specific I/F transfer	Fixed periodic I/F Transfer		Billed to fund
DNRP: SWD	Fixed periodic I/F Transfer		Fixed periodic I/F Transfer		Billed to fund
DPH	Fixed periodic I/F Transfer	Service specific I/F transfer			Billed to fund
DPH: EMS	Fixed periodic I/F Transfer	Service specific I/F transfer			Billed to fund
DOT: Director's Office	Fixed periodic I/F Transfer				Billed to fund
DOT: Roads	Fixed periodic I/F Transfer		Fixed periodic I/F Transfer	Budgeted & paid internally	Billed to fund
DOT: Transit	Fixed periodic I/F Transfer		Fixed periodic I/F Transfer	Budgeted & paid internally	Billed to fund
DOT: Airport	Fixed periodic I/F Transfer	Service specific I/F transfer			Billed to fund

2008 King County GIS Services Funding Mechanism Summary:					
GIS Service Recipients:	**GIS Service Providers:**				
	KCGIS Center Costs			**Agency GIS Unit[4]**	**Outside Vendors[5]**
	O&M[1]	**Client Service[2]**	**Matrix Staff[3]**		
Sheriff's Office	Fixed periodic I/F Transfer				Billed to fund
County Council	Fixed periodic I/F Transfer	Service specific I/F transfer			Billed to fund
Budget Office	Fixed periodic I/F Transfer	Service specific I/F transfer			Billed to fund
Prosecuting Attorney's Office	Fixed periodic I/F Transfer	Service specific I/F transfer			Billed to fund
Boundary Review Board		Service specific I/F transfer			Billed to fund
Judicial Administration	Fixed periodic I/F Transfer				Billed to fund
Superior Court	Fixed periodic I/F Transfer				Billed to fund
Outside Agencies	Future – TBD	Billed to agency	Future - TBD		

Table Notes:

1. KCGIS Center O&M expenses are 'fixed costs' funded by agencies on a share model basis determined annually. The share model is developed by the KCGIS Center and reviewed and approved by the KCGIS Oversight Committee (subject to normal county budget development procedures). O&M costs are billed via AIRS form to agencies by the KCGIS Center at the beginning of the year and paid automatically on a fixed periodic basis.
2. KCGIS Center Client Services costs are provided on a 'full cost reimbursement basis', billed to agencies as work is completed. Agencies can also prepay for client services to allow budgeted funds to be used in the coming year. Most client services are billed by the hour. KCGIS data disks are sold for a fixed unit price and GIS training is provided on a per seat cost basis for each class. Client services are generally billed to King County agencies via individual interfund transfers. Outside agencies are billed via invoice and pay by check.
3. KCGIS Center Matrix GIS Staff Unit operations are funded on the basis of 'negotiated annual level of service costs' allocated to six divisions in DNRP, and DOT that receive services. Matrix GIS staff costs are billed via AIRS form to agencies by the KCGIS Center at the beginning of the year and paid automatically on a fixed periodic basis.
4. Agency GIS Unit costs are budgeted internally for those agencies that maintain their own separate GIS service operations.
5. Costs for outside GIS consultants and vendors are billed directly to the appropriate fund. Such costs may include GIS software and hardware purchase and maintenance, specialized GIS-based applications, GIS data acquisition or development, GIS consultant or training services, or custom GIS application development.

3 KCGIS Priority Work Initiatives

Coincident with development of the annual GIS O&M plan, the KCGIS Technical Committee identifies priority work initiatives to pursue in the upcoming year and beyond. The priority initiatives described here represent a continuation of efforts begun in earlier years and new work that has recently become a focus.

The Technical Committee generally pursues work initiatives that can be accomplished using existing staff and budget resources. A large share of the work is carried out by KCGIS Center staff allocated to support the priority initiatives. For 2008 the support level from the KCGIS Center is approximately 3.0 FTE. An important factor in successful completion of the priority work initiatives is contribution from staff in other King County agencies. Therefore, Technical Committee members acknowledge there is a commitment to provide access to key staff within their agencies to help ensure the objectives of the priority work initiatives are met.

The work initiatives are administered by the KCGIS Center. Regular and periodic project reporting to the Technical Committee is required. Project status is summarized and provided to the Oversight Committee in a quarterly report. As an aid to the reporting process each initiative is assigned a tracking code. Codes beginning with “O” indicate initiatives primarily associated with organizational issues. Codes beginning with “D” indicate initiatives primarily associated with a data issue, and codes beginning with “A” indicate initiatives primarily associated with software application development.

In order to provide guidance to the KCGIS Center on how to allocate resources among the priority initiatives the Technical Committee conducts an advisory vote. Each member of the committee is allowed to indicate up to six initiatives that they want the KCGIS Center to focus on. Thirteen committee members participated in the vote. The initiatives are described in the following paragraphs, presented in descending order based on the number of votes received. The number of votes received is shown in parenthesis to the right of the initiative title.

D-5 Cadastral Accuracy Improvements – (8)

Background: The positional accuracy of King County’s parcel data varies. Some areas are of obviously poor quality and need improvement to align with more accurate data collected by GPS or survey methods. Several cities have sought positional improvements on their own and maintain there own version of parcel data. Opportunities to collaborate with the cities to improve the county’s parcel data should be pursued. In 2006 an agreement between the City of SeaTac and the Department of Assessments resulted in a pilot project to collaborate to adjust parcel boundaries in a limited area. More work followed in 2007 with SeaTac and also the cities of Burien and Bellevue. Significantly more staff resources are needed to effectively tackle this problem.

Objective: The KCGIS Center and the Department of Assessments will continue to work together to identify opportunities to improve the positional accuracy of the parcel data. The efforts with cities of SeaTac, Burien, and Bellevue will continue. Other cities will be contacted to determine their interest in similar efforts. The details of a proposal by the Wastewater Treatment Division to provide staff resources will be revisited. Other possibilities to apply more staff to this effort will be explored. Efforts will be focused where accurate data is available and/or the positional discrepancies are significant.

A-2 Authoritative Property Address Data Posting to Enterprise GIS Warehouse – (7)

Background: The authoritative property address data, created under priority initiative D-4 primarily to meet the needs of E-911, is also of great value to many King County departments and agencies for a variety of uses. These departments and agencies require an accessible version of the data in GIS format to be published in the King County Enterprise GIS Warehouse, PLIBRARY, in order to meet these needs.

Objective: The KCGIS Center, working closely with E-911, will determine a methodology for extracting an authoritative address GIS feature class from the E-911 authoritative address

database. This authoritative address feature class will then undergo back-end processing to add additional information (such as USPS attributes) that would benefit all agencies. The additional information to be included will be determined in coordination with the Authoritative Address Workgroup. This layer will be posted in the KCGIS Spatial Data Warehouse on a regular recurring basis

D-1 Authoritative Street Centerlines Data – (7)

Background: Near the end of 2006 the migration of King County's cadastral data from coverage (RECDNET) to geodatabase (KCAM) will be complete. In the same timeframe the new TNET database will be deployed by Transit. These new datasets will replace the county's current sources of street centerline data. As they vary significantly from the sources they are replacing, reworking of work flows and end user applications will be necessary. For instance, the editing workflow for the cadastral based street centerline data layer known as ST_ADDRESS will need to be altered to accept updates from KCAM rather than RECDNET. As the changeover to the new data source occurs, the opportunity should be taken to ensure that not only is the integrity of ST_ADDRESS maintained, but that the layer is still fulfilling its intended purpose and is clearly distinguished from TNET. TNET, which is a representation of the multi-mode transportation network, is a significant departure from its predecessor (KCSN). KCSN will be retired and a transition to TNET and its many derivative data sets will need to be made.

Objective: Clarify the content and business role of ST_ADDRESS and establish a new editing work flow and update cycle. Ensure that any KCSN based applications are migrated to make full use the new TNET data. Develop adequate descriptive metadata for ST_ADDRESS and TNET, and retire any street network depictions that are not based off of these data sources. Develop cartographic representations for both ST_ADDRESS and TNET for use at typical scales and general mapping purposes.

D-4 Authoritative Property Address Data – (7)

Background: Several county agencies maintain property address information as an important dataset supporting their core business needs. Verifying addresses and keeping up with property address changes is a time consuming and error prone task. This task is made more difficult because agencies lack an authoritative reference source for addressing data. The E-911 GPS addressing project, due to be completed in 2007, will result in the most complete and accurate accounting of addresses in King County ever complied. This new dataset can provide the building block for creating an authoritative address layer which will serve the needs of multiple county agencies. There is also an opportunity to implement a set of best practices to streamline the update of addressing data, replacing the often archaic processes that are currently used.

Objective: The Authoritative Address Workgroup will work in partnership with the E-911 Program Office and other county agencies to establish the authoritative addressing database. The workgroup will develop and implement a work flow and address verification process to ensure the database is maintained to the highest standard. Guiding principles will be developed outlining expectations, roles, and responsibilities of the various addressing authorities as well as the county agencies using the database.

A-6 GIS Open Source Software Assessment – (6)

Background: Proprietary GIS software is expensive and complex. Some implementations of the latest proprietary products are proving to be problematic. Open source GIS software products are emerging that provide extensive functionality and may offer viable alternatives. Several local jurisdictions are beginning to explore using open source GIS, and King County should track this trend for possible opportunities.

Objective: King County will complete an assessment of the open source GIS products that are currently available. Capabilities and functionality of open source software will be identified and described for three components of KCGIS: enterprise database and data warehousing, web

mapping, and data editing and map production. A survey of government agencies that have implemented open source solutions will be conducted. Findings and recommendations will be presented to the Technical Committee. Pilot studies will be conducted of the most promising software implementations for each of the three components of King County GIS.

D-8 TNET Roll Out Support – (6)

Background: TNET is the authoritative road network that will be used by all county agencies. Roll out of TNET has been delayed by technical issues. Many of these issues have been resolved, but additional staff resources are needed to bring TNET to its full potential and currency.

Objective: Three areas of support have been identified. One, assist Transit with TNET edits as requested by cities. Two, assist Transit as needed with implementing database replication technology. Three, assist E-911 and Transit to synchronize the versions of TNET each agency is currently using.

A-7 Web Application Providing Functionality Similar to the Google Map API – (6)

Background: In 2007 the Technical Committee sponsored a "GIS Future" discussion session. Several non-GIS professionals expressed an inability to map their project data simply and efficiently with solutions provided by KCGIS. Their response to this problem was to use web based tools such as the Google Map API, which allows them to map their project data, but does not have access to the KCGIS Spatial Data Warehouse. In many cases the data from the KCGIS Spatial Data Warehouse is more recent, more detailed, or otherwise preferable to the generic data presented by Google and its competitors. Also, by turning to solutions outside of KCGIS, opportunities to leverage this project data, and improve on maintained data layers are lost. The ArcGIS Server technology presents a new opportunity to enable the creation of such an application.

Objective: Guided by the GIS Developers Work Group, create and deploy a web based application that allows a GIS novice to provide geo-referenced project data, and see that data mapped over a few simple choices of base maps. Use Google Maps API as inspiration. See http://code.google.com/apis/maps/index.html.

A-8 AVLib Replacement Tools – (5)

Background: With the migration to ArcGIS 9.x there is no enterprise tool set equivalent to the ArcView 3.x enterprise applications that supported many desktop GIS users. Needed are tools to access the GIS spatial data warehouse through the ArcGIS 9.x environment.

Objective: Complete development of the enterprise ArcGIS 9.x applications to replicate the capabilities of AVLib (including map making), AVImg, and KC Parcel Tools.

O-2 King County GIS User Needs Assessment and Training Curriculum Review – (5)

Background: The current training plan was first published in 2005, revised in 2006, and again revised in 2007. The trend has been to drop courses, and refocus on the emerging needs of GIS users. The plan was originally based on the results of GIS user survey done near the beginning of the GIS Software Migration Project. The courses that have been developed have not seen the expected attendance based on the results of that survey. This is likely because GIS user needs have changed in the intervening years. In order to produce new training resources that meet the 2008 needs of the GIS user community we need to conduct a new needs assessment.

Objective: Conduct a King County GIS user needs assessment in the early portion of 2008. Use the results of that assessment to re-evaluate the training plan, and develop a relevant GIS education program that empowers current and potential users of GIS technology. A key principle remains to create modular, customized training materials that are geared towards specific

categories of GIS users. Alternative training delivery methods will be considered; including web based forums, and recorded training sessions.

O-3 GIS Server Consolidation – (4)

Background: One of the key objectives of the OIRM IT reorganization is server consolidation. The county currently has hundreds of servers and there is no coordination across departments to maximize the use and efficiency of these resources. If server consolidation proceeds it will affect the GIS units in the downtown area. The GIS units in downtown Seattle should anticipate and plan for server consolidation, and should be prepared to promote its own set of recommendations for server consolidation.

Objective: Form working group to explore opportunities to share GIS server resources. Develop recommendations to forward to OIRM. If server consolidation proceeds, then develop implementation plan.

D-7 Parcels with Onsite Septic Systems Data Development – (3)

Background: Several agencies have identified a need for data depicting parcels with onsite septic systems. Developing this data set may be problematic as there is no clear understanding of the quality and completeness of possible source material. Initial work needs to be done to determine the feasibility of developing a parcel-based septic system inventory that would meet minimum data quality standards.

Objective: Public Health will expand their efforts to provide electronic access to onsite septic system records over a wider area of the county. WTD will obtain local sewer service addresses from more local agencies and populate the database begun in 2007. Those not having sewer service are presumed to have onsite septic systems.

A-3 Census Data Analysis Tools Assessment – (2)

Background: The United States Census Bureau is making dramatic changes to the content and format of the demographic data that it releases. These changes will require development of a new set of customized GIS tools in order to analyze and display this valuable information. Some new data will become available before the 2010 census, and King County can begin now to plan for their release. In late 2007 the Technical Committee will start this planning process by investigating the implications of developing GIS tools to handle the new census data.

Objective: Work on this initiative will be divided into two phases. The Census Workgroup, formed in 2007, will focus in 2008 on King County's response to the US Census Bureau's Local Update of Census Addresses (LUCA) program. LUCA allows us to share local address databases with the Census Bureau and make corrections to the Census Bureau's list to be used for the 2010 Census. This opportunity for a more accurate census involves staff from DDES and the KCGIS Center, with review by the GIS Technical Committee. In 2009, when the LUCA work is complete, the Workgroup will proceed with phase 2, designing applications to display new Census data. The group will investigate and assess the issues involved in developing GIS analysis and display tools for use with the 2010 census data. This investigation should at a minimum identify the interested stakeholders, conduct an analysis of the new census data structures and content, review the current King County Census Viewer for its ability to be adapted to work with the new data, and develop a list of functional requirements for a rebuilt or entirely new census viewer application.

D-3 Authoritative Points-of-Interest Data – (2)

Background: Many enterprise datasets depict features as point data. Of these sets many depict landmarks, facilities, and other locations that might be commonly referred to as points-of-interest. There is currently no coordination between agencies for maintaining this information, which results in inconsistencies in coding, gaps and overlaps in content, and a lack of clear statement of the respective business purpose of these layers. This is particularly true of the KCGIS Center's

POIPUB and POINOPUB layers and Transit's LANDMARK layer. The need for a common, shared points-of-interest layer has been examined periodically in the past, but a clear consensus on how to proceed has not emerged. During 2007, the KCGIS Center took advantage of a need to perform data cleanup on POIPUB and POINOPUB and several related layers (FIRESTN, HOSPITAL, SCHSITE and others) to relate the data to a pre-published version of the comprehensive E911 point address database, ESITES. This work served the dual purpose as a limited pilot of some of the requirements that may be necessary for a larger, enterprise design for a common points-of-interest type layer. In addition, it started the preliminary process of evaluating the scope and business functions these related layers should serve. However, it did not address all of the issues other agency stakeholders may have, nor significantly began the process of building the necessary consortium to support a shared maintenance effort.

Objective: During 2008, this pilot effort will move to the next step of coordination with key stakeholders, particularly Transit. Transit's LANDMARK layer is tightly integrated with downstream business processes, plus has other business constraints such as one-to-many name aliasing and spatial associations that have dependencies other than feature centroid. However, several elements evaluated and implemented in the KCGIS Center pilot, such as business table relationships and domain requirement tiering, could be leveraged and adapted to help develop a true enterprise prototype. This prototype's workflows could be developed to deliver child products, derived from a centralized master database that would allow current downstream business processes to remain unaltered. Another key objective to be met is the development of standardized update/editing rules and procedures that would permit key agencies to contribute to the master database in a consistent manner. A logical, yet flexible, and well-implemented design and workflow would also allow other types of points-of-interest data, contributed by other agencies, to be built into the master database.

A-1 GIS Application Development Coordination and Facilitation – (1)

Background: Software application development is pursued separately within the GIS programs of several county agencies. Given this environment, application development benefits from communication where programmers share knowledge, skills, ideas, and code. At another level is collaboration among developers which involves peer review, joint development efforts, coding and technology standards, and sharing of application requirements. In 2006 the GIS AppDev Group was tasked with developing a set of communication and collaboration protocols to be followed by GIS programmers. Work on these protocols will continue in 2007. In addition, to gain further efficiencies the Technical Committee has identified the need for an application digest and repository. The digest would essentially be an electronic catalog of King County's custom GIS applications, with an associated repository for application documentation and code.

Objective: The GIS AppDev Group will complete development of a set of procedures and protocols for communication and collaboration by GIS programmers within King County. The group will also assist the KCGIS Center in designing, developing, and populating the KCGIS Application Digest and Repository.

A-5 King County Web Mapping Services Compendium – (0)

Background: The KCGIS Center, in coordination with King County agencies, has developed and deployed highly popular enterprise web mapping applications such as iMAP and Parcel Viewer. Agency specific web mapping services have also been deployed by the KCGIS Center and others. New technologies developed by private firms such as Google are making it easier to deploy interactive web maps, and a handful of county agencies are experimenting with these tools. Web mapping services are among the most sought after resources on the county's website and surveys indicate the public wants geographic resources like these more than other kinds of web content. However, with the proliferation of King County web mapping services the typical user may have difficulty sorting through and locating the appropriate services for their needs. To make it easier for the user, and to improve public service, a compendium page could be compiled that would be a one-stop location to learn about and link to all of the county's map services.

Objective: Develop a King County mapping services compendium page that would be available from the county's Internet home page. This compendium page will contain descriptions of the various county web mapping services and provide links to each service. A procedure will be developed to keep the compendium up to date as more mapping services are brought online. Once the compendium page is in place other ideas will be explored to see how the user's interactions with King County's many mapping applications can be improved.

4 Work Plan

Chapter 4 of the 2008 GIS O&M Plan provides details of the GIS work plans for the KCGIS Center and the KCGIS Technical Committee member agencies. Each agency work plan is described separately in this chapter using the same outline progression to standardize the work plan descriptions and to ease comparison across agencies.

Work plan descriptions are introduced with background information to clarify the purpose and objectives of the agency's GIS program, and to broadly describe how GIS activities within the agency are coordinated and managed. This introductory section also includes description of the agency's mission, primary business responsibilities, and GIS business strategy. The discussion provides detail about the strategies employed by the agency to deliver GIS services to various business functions, with an emphasis on the opportunities and challenges related to providing GIS services, cross-agency issues and dependencies, long-range goals and initiatives, and the role of the agency in the wider scope of the KCGIS program. The rest of each agency section is focused on planned activity for the year including projects, data and application development or enhancement, and changes to hardware, software, database, licensing, or staffing.

Each agency program is presented as a separate subsection of this chapter, and programs within the same department occur sequentially. Due to its unique status as the enterprise GIS unit, the KCGIS Center is presented first and is not grouped with the other GIS programs in its parent department (DNRP).

4.1 King County GIS Center

4.1.1 Agency GIS Overview, Priorities, and Goals

- The King County GIS Center's mission is to deliver efficient, high-quality GIS technology solutions to King County agencies, the public, and our regional partners, in order to meet the business needs of King County and the communities we serve. To carry out this mission the KCGIS Center works with the KCGIS governance committees, and King County departments and their GIS programs to provide enterprise GIS services, on-demand GIS client services, and matrix GIS staff services. The core value of the KCGIS Center is to provide services that are accurate, consistent, accessible, affordable, and comprehensive.
- The KCGIS Center is an internal service fund administratively assigned to the Director's Office of the Department of Natural Resources and Parks (DNRP). The KCGIS Center Manager handles daily operation and strategic direction of the KCGIS Center and is a member of the KCGIS Technical Committee. The KCGIS Center Manager reports to the DNRP IT Service Delivery Manager. The DNRP IT Service Delivery Manager monitors the activities of the KCGIS Center on behalf of the DNRP Director and serves as permanent chair of the KCGIS Oversight Committee.
- The KCGIS Center has a total of 31 staff positions organized into three business units; Enterprise Operations, Client Services, and Matrix Staff Services. This staffing level is unchanged from 2007; however the FTE allocations budgeted to two of the business units change in 2008. For details of these staffing changes see Section 4.1.4 of this document.
- ***Enterprise Operations –*** The Enterprise Operations Unit provides a range of management, administrative, and technical services to support the KCGIS program. The management and administrative functions of the Enterprise Operations Unit are primarily carried out by the KCGIS Center Manager, the Marketing & Finance Manager, the Enterprise Services Manager, and the Office Manager. Services provided by this group include staff management, program development and planning, budgeting, financial control, marketing, administrative and clerical support, enterprise coordination, contract management, and external data acquisition. Financial control includes management of the KCGIS internal service fund, annual budget development in coordination with the KCGIS governance committees, billing for annual cost allocation shares, financial expenditure controls, and financial reporting. The marketing efforts promote the use of KCGIS products and services and further the County Executive's vision of the KCGIS Center as a regional service provider to local municipalities, utilities, and other public and private agencies. The technical functions of the Enterprise Operations Unit are provided by GIS analysts and project managers and cover a broad spectrum including enterprise data coordination, spatial data warehousing, RDBMS administration, website management, application development, system administration, and infrastructure management. Other technical services of this group include administration and publishing of GIS metadata, verification of data posted to the KCGIS Spatial Data Warehouse, and data integration and quality control for the cadastral base framework maintenance process. The KCGIS Center Manager oversees day-to-day operation of the Enterprise Operations Unit and directs long-term and strategic planning. The DNRP IT Service Delivery Manager provides technical advice to the Enterprise Operations Unit and coordinates implementation and maintenance of the KCGIS Center's technology infrastructure within the larger framework of the county's information systems.
- ***Client Services –*** The Client Services Unit offers a full range of on-demand GIS consulting and project services on a cost-reimbursable basis to King County business units and to external customers such as local agencies, cities, and citizens. The hourly labor rates for 2008 are based on a tiered pricing structure. GIS analyst services are $90, GIS programming, advanced cartography, and technical coordination services are $95, and GIS consulting and project management services are $99. The Client Services Manager supervises the unit and initiates and coordinates service delivery. In 2008 the Client Services Unit has a budgeted allocation of 6.00 FTEs. This allocation is fulfilled by drawing on the highly-specialized skills of staff throughout the KCGIS Center. Using the staff resource in this manner maximizes the range of talent available

and increases flexibility for responding to projects. In 2007, twenty different KCGIS Center staff members worked on at least one Client Services project. For additional details on the services provided by the Client Services Unit see Appendix B: KCGIS Center Services.

- ***Matrix Staff Services –*** The Matrix Staff Services Unit provides dedicated GIS staff support to specific King County work programs through an annual contractual agreement. In 2008 12.40 FTEs will be allocated to six different work programs in two departments. Program managers are assigned to oversee each work program and these managers coordinate as peers to draw support for their programs from a pool of KCGIS Center staff resources. Matrix Staff Services Unit personnel are generally assigned to a single work group and thus report to a specific program manager for most or all of their projects. However, the matrixed staffing strategy allows program managers to share the pooled resource to optimize response to project demands. Managers for four of the programs are employees of their respective divisions and are not funded as KCGIS Center staff. These programs include Wastewater Treatment, Water and Land Resources, Transit, and Road Services. Work programs in Parks and Recreation and Solid Waste are overseen by program managers from the KCGIS Center. The KCGIS Center Manager is the administrative manager for the Matrix Staff Services Unit. As such the KCGIS Center Manager is responsible for supplying and maintaining the matrix resource (namely the GIS staff). Specific duties of the administrative manager include establishing the technical and quality standards for the GIS services, ensuring matrix personnel have the necessary training and resources to perform quality work, and balancing staff allocations across the divisions to meet work plan requirements. The GIS program managers from DNRP, DOT, and the KCGIS Center have responsibility to develop and execute their respective work plans, and coordinate with the KCGIS Center Manager to obtain the appropriate GIS staff resources to meet their program objectives.

4.1.2 Planned Project Activity and New Projects

Name	**GIS Software License Consolidation**
Description	This project calls for all concurrent-use ESRI ArcGIS 9.x licenses to be consolidated, managed, and accessed from a central enterprise repository to be administered by the KCGIS Center. This includes all licenses currently managed by the KCGIS Center and those held by other King County agencies. The license consolidation proposal is detailed in a document prepared November 22, 2005 for the KCGIS Technical Committee.
Interdependencies	Consensus of KCGIS agencies to proceed with pooled licensing concept.
Status	In progress
Target	2008
Activity	▪ Continue manual “snap-shot” monitoring of ESRI license manager on ORCA to determine usage patterns and measure adequacy of existing licenses to meet needs of agencies. ▪ Work with county agencies to address and mitigate concerns with the consolidation proposal. ▪ Evaluate automated license monitoring software. ▪ Escalate issue through KCGIS governance structure until resolved.

Name	**GIS Training Curriculum Development**
Description	The goal of this project is to create a training program for ongoing and relevant GIS education, which will empower current and potential users as proactive spatial thinkers, who can support better decision-making, and deliver superior public service using GIS. This goal is achieved by developing training opportunities that are modular, customized, and geared toward specific categories of users within the GIS community. The KCGIS training program and curriculum is fully described in an annual update (see www.kingcounty/operations/gis/about/trainingplan.aspx).
Interdependencies	Active participation and commitment by knowledgeable GIS staff with expertise to help with course development.
Status	In progress
Target	2008
Activity	▪ Complete GIS users needs assessment in early part of 2008. ▪ Develop annual update of training plan based on findings of user needs assessment, and submit to KCGIS Technical Committee for approval. ▪ Continue development of course curriculum materials to meet dynamic GIS user needs.

Name	**KCGIS Business Continuity Data and Application Replication**
Description	The KCGIS Center servers housing the Spatial Data Warehouse, and the infrastructure supporting the *iMAP* and *Parcel Viewer* Internet mapping applications were identified as critical applications by the King County continuity of business study. As a result, these systems must be fully replicated at an alternate data center.
Interdependencies	Establishment of alternate data center by OIRM.
Status	In progress.
Target	Q1 2008
Activity	▪ Install and configure replicated systems at the new alternate data center (one Web server and application server). ▪ Configure, test, and ongoing operation of data backup (mirroring) between KCGIS Center production systems at King Street Center and secondary systems at the alternate data center. ▪ Document procedures required to activate services at the alternate data center to a level of detail such that a non-technical user could reinstate the backup applications in the event of a catastrophic failure of primary servers at King Street Center.

Name	**E911 Address Maintenance and Data Distribution Application (AMANDA 911)**
Description	Phase I: Develop an ArcGIS Server (AGS) based web interface to allow addressing authorities to easily input their address additions, deletions, and updates. This will allow King County to maintain a single authoritative countywide address data resource to serve E-911, as well as other internal and external needs. During this initial phase, the participants will include King County departments and three outside addressing authorities. Phase II: After the application is initially deployed and in use with the pilot agencies, it will undergo additional refinements based on user feedback. Additional outside agencies will be assisted with implementing the application and using the resulting data layer for their addressing needs.
Interdependencies	The project is heavily dependent on and can not make significant progress until a successful implementation of AGS is completed. All phases will require the participation, coordination, and dedication of adequate resources of both internal King County departments and external addressing authorities.
Status	In progress.
Target	Phase I: Q4 2008 Phase II: 2009
Activity	▪ Phase I: ▫ ArcGIS Server implementation (see *King County ArcGIS Server Implementation Strategy* for details) ▫ Base layer cache creation ▫ Develop and refine functional requirements ▫ Web application design and development ▫ Prototype testing and debugging with the assistance of feedback from the pilot agencies ▫ Implementation and deployment of first version of the web application ▪ Phase II: ▫ Continued refinement of the web application ▫ Expansion of number of agencies utilizing the web application for maintaining address data

Name	**GDB Development Environment Standardization**
Description	KCGIS Center Client Services and Enterprise workgroups maintain the majority of their GDB data (featureclasses and tables) in the GISPROD MAINT database. During the migration to the ArcGIS 9.x platform an organizational and naming convention model was implemented for all KCGIS Center maintained layers. This design has been loosely enforced and has maintained reasonable integrity. However a more defined goal is a group of consistent, efficient back end maintenance and

	geoprocessing procedures, metadata management protocols and SDW publication routines that can be implemented regardless of update frequency or editor association. Standardization components would include a logical feature dataset, featureclass organization and naming design supported by web-accessible maintenance plans and step-by-step editing and processing cookbooks. Additional components would standardized quality assurance modules that could be imported and tailored to individual back end processes, and a central repository for scripts and geoprocessing models that are documented consistently allowing for automated extraction and posting of functionality (i.e., application metadata). WTRCRS and WTRBDY will be used as early adopters of this methodology, both to help define and refine the templates, and to provide examples of the products. Use of the products will be evaluated to ensure that this higher level of standardization and design does not just result in an onerous documentation exercise or an overly complex or restrictive workflow design. The goal of this project is to put in place template procedures and workflows supported by documentation that results in efficient enterprise data maintenance and posting.
Interdependencies	Assistance from the current Hydrography workgroup participants to develop components, and review and implement components for WTRBDY and WTRCRS.
Status	Formalized development has not yet started but various existing components can be harvested and standardized to finalized modules.
Target	Q1 2008 for templates for components. Q2 2008 for implementing for WTRCRS. Q3 2008 for implementing for WTRBDY.
Activity	▪ Develop work plan outlining various components of overall design. ▪ Develop webpage portal to component documentation. ▪ Structure centralized location for storage of python and model builder routines. ▪ Template designs for featureclass, feature dataset organization and naming convention, coded-value domain naming and sharing procedures, relationship class requirements and version tracking. ▪ Design templates for maintenance plan documentation, editing and geoprocessing cookbooks, quality control routines, and metadata creation and update procedures. ▪ Implement for WTRCRS and WTRBDY, and refine as necessary. ▪ Perform periodic review of plans and state of MAINT database. Enforce cleanup and realignment of data particularly to reduce occasions of ‘work-arounds’ morphing into the status quo.

Name	**Data Coordination Priorities**
Description	Enterprise Data Coordination activities continue to use the bi-monthly Data Coordination Group meetings to bring new topics to the table and to inform participants of the status of on-going work. The model of the group was restructured in late 2007 partitioning the meeting into two components. The first 45 minutes of the meeting deal with on-going database integrity and data quality issues that need immediate or near-term solutions at the enterprise level. The balance of the meeting

	(45 minutes) is now geared toward addressing one to two significant data layer issues. The topics for both portions of the meeting, but particularly the second part, are highly dependent on input from the meeting participants. Depending on the topic addressed during the second part, participants can selectively attend and, as needed, other key stakeholders or interested parties may be invited. Other Data Coordination priorities that will be addressed during 2008 include: • Complete and maintain synchronization of the GIS News Data Digest events to the *StewardTool* control table so that the table can affectively manage transactions for all Spatial Data Warehouse object transactions. • Refine the current *PostRep* and post-publishing reporting to notify stewards of database integrity issues on daily basis to avoid persistent integrity issues. • Refine and aggregate various existing integrity check and validation reports into central access console so that persistent issues can be tracked, addressed and solved. • Work with stewards to clarify ownership (stewardship) versus editing/maintenance assignments, improving internal and public communication. • Continue to work on metadata quality review particularly as publication of metadata moves from central KCGIS management to agency control. • Institutionalize key decisions from the Data Coordination Group into formalized best practices procedures. • Continue to elevate agency datasets to the enterprise level when a broad business need is defined. • Continue to address problematic data redundancy issues, on a case-by-case basis. Address, as necessary, with metadata clarification as to datasets' business functions, or work with stewards to outline more permanent data redesign options. • Support KCGIS priority initiative data projects as necessary. • Develop a procedure for defining "data gap" issues to possibly inform future agency-level or priority initiative data projects. • As started in 2007 for 2008 plan, use agency contacts as a way to perform a annual data and metadata 'check-in'.
Interdependencies	Coordination and scheduling with KCGIS agency data stewards and other key stakeholders (users, developers, DBAs), as necessary.
Status	In progress.
Target	End of 2008, then on-going as need dictates.
Activity	▪ Initial brainstorming to develop and prioritize a 'wish list' of data enhancement and data development needs, cross-referenced to the 2008 O&M plan. The group will look for 'low-hanging fruit' projects to serve as targets for establishing the mechanisms for larger and longer-term efforts. ▪ Look for specific data sets that might effectively share a common coded value domain or relationship class. This will expand the enterprise-wide knowledge and

	experience with these database objects, and lead to procedures for optimizing data through cross-dataset dependencies. Initially, the item-frequency data dictionary will be used to define potential candidate layers and items. ▪ Address specific opportunities to meet multiple agency data requirements by sharing common geometry among multiple children layers, each with a different, supporting business table dependency. A simple example would be Road Services detention ponds data set sharing WTRBDY geometry, but delivered as a child layer with attached Roads business-specific attributes. ▪ Work on new data set issues as determined by the group, or forwarded by the KCGIS Technical Committee.

Name	**GIS Open Source Software Survey**
Description	The objective of this project is to conduct a review of more mainstream/developed open source GIS software packages in use today in order to see if they can produce viable solutions for the various aspects of GIS within King County. The reasons for such a survey include but are not limited to: price (free or nearly free), current software packages are slow, buggy, and expensive, and solutions for ArcView 3.x users have not been met. Software for three aspects of King County GIS will be surveyed: • Enterprise Database and Warehousing • Web mapping • Data editing and map production For each of the three aspects the following tasks will be completed. • An inventory of available software • Survey of municipalities or organizations that have implemented solutions with the software • Small pilots demonstrating the capabilities The expected outcome of the survey would be a table of recommendations for supplementing current GIS applications or replacing current GIS applications.
Interdependencies	None.
Status	Not started.
Target	Completed Q4 2008.
Activity	▪ An inventory of available software to include: description of software capabilities and functions, programming language and software source code, programming environment for application development (e.g. Python, VB, SQL, etc.) ▪ Survey of municipalities or organizations that have implemented solutions with open source software. ▪ Pilot creation with the most promising software implementations for each aspect of King County GIS.

Name	**KCGIS Center WCMS Migration**
Description	As part of the OIRM web refresh, all county agencies are required to migrate their websites into the enterprise Website Content Management System (WCMS). The hard deadline is December 2008, when the metrokc.gov domain and any sites associated with it will cease to exist. All sites using the new kingcounty.gov domain must be in the WCMS. Online applications (such as iMAP) are exempt; although we expect a push to have applications conform to the county web template as soon as possible.
Interdependencies	The success and timeliness of the KCGIS Center WCMS migration depends to a large part on the Sitecore management software, which is proving to be technically challenged and ill-documented. Ability of OIRM Web Team to support agency migration to WCMS.
Status	In progress.
Target	Q1 2008. KCGIS Center will be an "early adopter" if this timeline holds.
Activity	▪ Page-by-page review of the existing site. ▪ Creation of the new site from the ground up. (The site-building is actually performed on a non-public "migrate" server, and when the site is deemed ready by the stewards and OIRM it is moved to the production WCMS server.)

4.1.3 Data Enhancement and Development

Name	**Points of Interest Layer**
Description	Project was revamped to initially solely focus on developing a pilot based on only KCGIS Center point datasets. This pilot resulted in improved spatial and attribute information for the affected datasets: FIRESTN, HOSPITAL, POIPUB, POINOPUB, PH_CLINICS and SCHSITE, based on a common core database supported by business-specific data tables. It also helped define some of the potential issues to be resolved before pursuing further enterprise-wide development of this layer. Future efforts need to focus on refining and documenting the data model, editing and posting procedures to allow consistent and timely updates for the affected themes to occur. This will include determining how the relationship to the ESITES database will be structured. One other key issue to be resolved is to clearly define those thematic categories (e.g. domain class) that KCGIS will actively maintain and verify and which will be included when beneficial but not actively managed. Possible expansion to a truly enterprise-level database will require coordination with key agencies.
Interdependencies	Coordination with key agencies (Transit, Parks, WLRD, E911, DPH and WTD) and sufficient scoping of overall requirements and individual business requirements for both geometry and attribute design.
Status	In progress.
Target	Q1 2008 for reviewing and documenting current procedures and data model used in

	pilot work. Q1 through Q2 2008 for meeting with stakeholder agencies for determining level of enterprise-wide integration that will be attempted.
Activity	▪ Standardize and document procedures, determine current data update cycle including procedures for actively maintaining embedded webpage hyperlinks. ▪ Meet with stakeholders to develop overall project plan and to evaluate practicality of meeting different business needs within a single data model. ▪ Develop multi-tiered attribute model to store standard set of required items in first tier with optional agency business values in second level. ▪ Address potential for an offset variable or multiple x,y storage to deal with requirements to store location as other than true centroid. ▪ Develop standard operating procedures to address multiple editors, including primary domain assignments, and mechanisms for quality assurance.

Name	**Extending Landsat Imagery Library and Associated Landcover Product Development**
Description	The core portion of the Landsat Imagery Library was established in 2006 with the acquisition of a series of summer-time satellite imagery for years: 1996, 2000, 2002 and 2004, plus a late-winter 2002 image. Summer 2006 and 2007 images and possible in-fill of the existing series will be completed by the end of 2007. The workgroup has finalized a draft classification scheme based on input from multiple county stakeholders. Preprocessing of the images has also been completed. The project was largely dormant the latter part of 2007 due to other work priorities. The actual timeline for classification work and quality assessment will be dependent on the time available from a limited pool of skilled interpreters. License consolidation during 2006 will provide the option to make the required software available to additional KCGIS Center specialists, again dependent on staff availability. This would additionally require, at minimum, an introductory training commitment from the WLRD technical lead, supplemented by vendor-based training to maximize the potential of using other staff.
Interdependencies	Primary interpreter and secondary interpreter availability; training for secondary interpreter.
Status	In progress, but not active at this time.
Target	Q1 2008 to reevaluate labor commitments and review status. Depending on the results of the review and options for distributing work pilot area classification may begin Q2 2008, followed by full classification of primary scene.
Activity	▪ Complete signature (training) site development. ▪ Pilot area classification, evaluation and accuracy assessment. ▪ Complete scene classification, procedure documentation, error analysis. Possible limited ‘ground-truthing’. ▪ Proceed with subsequent scene classifications, labor availability permitting. ▪ Documentation (metadata) and posting of products to SDW.

Name	**Phase II WTRCRS – Linear Measure**
Description	Phase I of the Hydrography enhancement project resulted in significantly updated WTRCRS and WTRBDY geometry and attributes, as well as a full suite of new topographically-based drainage basin layers (TOPO_CATCHMENT, TOPO_BASIN, TOPO_WATERSHED, TOPO_WRIA) and related layers. WTRCRS, WTRBDY and the TOPO drainage series primary line and polygon topology are now in maintenance mode. Phase II work will affect only WTRCRS, where key agency-specific business attributes will be added to the schema and linear measure topology will be created for streams within basins encompassed in whole or part by the King County boundary. New orthoimagery-based updates to WTRBDY will be used to influence adjustments to WTRCRS so that the two datasets continue to work in concert.
Interdependencies	Sufficient labor available for updating the features with the identifier along with related quality control. Agency-specific business table attribute assignment will be performed by the benefiting agency in a shared editing environment. The workgroup will provide oversight in ensuring logical database design modifications resulting from these additions.
Status	Design work has been completed. Piloting and preliminary back end processing are in progress. Full dataset development will begin once pilot has been quality assessed and tested.
Target	Beginning of Q1 2008 for final review and testing of pilot areas. End of Q1 to middle of Q2 2008 for full database implementation. After SDW publication, agency-specific business attribute additions will be solicited for implementation. These are dependent on the affected agency's staff availability or Client Services agency support.
Activity	▪ Complete pilot area and review. Adapt portion of existing measure-based business table for enhanced testing. ▪ Develop and document, as required, standardized editing tools and back end applications to assist and automate linear measure updates, including enhanced quality control routines. Incorporate Phase I back end processes into Phase II protocols. ▪ Review agency-specific attribute additions on case-by-case basis. Coordinate editing with primary steward. Establish quality control requirements. Agency coordinates and provides labor for actual editing and quality control. ▪ Update metadata for enhanced schema and functionality of WTRCRS. Reflect reduced maintenance and publication extent. Determine best way to create metadata/LYR files for event data based on WTRCRS. ▪ Cross-reference new extent of WTRCRS against adjacent Snohomish and Pierce County watercourse datasets. Determine best way to create grouped LYR file to present tri-county area data to users.

Name	**Raster Elevation Data Updates**
Description	The current LiDAR-based elevation database is now approaching five years in age. Though relatively static as compared to more dynamic enterprise data sets this key

	base layer is in need of localized maintenance and updates. A primary driver for this maintenance are the changes in landforms due to development construction and locally more current and accurate data that could have an impact on general data applications but particularly the quality of planned biennial orthoimagery acquisitions. The large size of the elevation database, its multiple derivative formats and four-tier tiling storage model will require highly standardized editing transactions and rigorous completion logging to ensure good quality results and efficient workflow. Potential higher-value, more current data may become available in varied formats and will need to be derived to base ASCII points. Derived TINs will be evaluated against the current enterprise data to determine its relative value for inclusion. If the value meets a reasonable threshold a workflow and toolset will be employed to remove old points, insert the new, and rebuild the affected 7500 foot tiles, township tiles and higher level zone and keyregion mosaics across all derived products. Because of the time involved in building and re-publishing the highest level zone and keyregion tiles, a triggering mechanism will be established for maximizing the benefit to users relative to the time required for processing and publishing. A high level of automation for geoprocessing, quality assurance, and inventory control and tracking will be necessary to make these updates efficient. As these updates will be episodic, ongoing and will affect irregular and non-contiguous areas the feature-level (i.e., ASCII point) data source documentation may be required. Dataset-level metadata will need to be enhanced to accurately provide information about affected data tiles and extents updated. As updates to the file-based tiles are complete, further work will be required to determine the most efficient way to incorporate these updates into the SDE enterprise GDB, for both updated contours and possible as a seamless terrain feature dataset.
Interdependencies	Access to updated elevation data from cities, counties and other entities. Assistance of KCGIS staff and other agency GIS members to identify these sources so data can be acquired.
Status	Not started.
Target	Q1 2008 for workflow procedure design, followed by Q2 2008 piloting using 2004 Snoqualmie River data. By end of year establish automated processing and tracking routines that could be tested against new data.
Activity	▪ Develop work plan with specific geoprocessing and tracking steps. ▪ Pilot 2004 Snoqualmie River data to determine major geoprocessing/automation issues, prototype scripting routines. ▪ Review issues, standardize geoprocessing steps, design and implement feature and dataset tracking mechanism. ▪ Using updated geoprocessing and tracking procedures, repeat processing for full 2004 data. ▪ Depending on availability of other updated data (Bellevue, Seatac Airport), further test routines while making these improvements. ▪ Institutionalize process (using GDB Development Environment Standardization process) so that updates can be performed by available staff. ▪ Make final determination how elevation data and contours will be stored in SDE

	GDB and incorporate updated file-based data into raster or terrain mosaics as necessary.

Name	**Imagery Acquisition**
Description	Use of annual $200,000 budget for the acquisition of imagery products to meet the business needs of King County departments. Principally this will be for traditional vertical imagery every two years. Additional imagery for oblique views of buildings or multi-spectral data for land use classification or other purposes may be acquired if resources are available.
Interdependencies	Requires the coordination of data needs and resources by the Imagery Work Group as it makes recommendations to the GIS technical Committee.
Status	2007 aerial imagery acquisition by Pictometry is being processed for delivery to county.
Target	Q1 2008 – Receipt and deployment of 2007 Pictometry imagery and software. Q3 2008 – Develop acquisition plans for 2009 imagery capture.
Activity	▪ Review Pictometry products and make recommendations ▪ Provide version of ortho imagery to USGS in accordance with the grant of $50,000. ▪ Prepare fight specifications and schedule Spring 2009 imagery capture to enhance library with 'leaf off' version. ▪ Review multi-spectral imagery products and system providers. ▪ Interview potential imagery vendors. ▪ Host technical imagery forum to further regional coordination. ▪ Host second user forum to further regional coordination.

Name	**WTRBDY_WET and SAO_WETLAND Synchronization**
Description	When WTRBDY was revamped during Phase I of the Hydrography Project, those features coded as feature_type = 111 (wetlands) were removed from the WTRBDY featureclass and used to create a new featureclass, WTRBDY_WET. WTRBDY was more narrowly defined as 'open water' features only, without attempting to delineate non-emergent wetlands or wetland areas juxtaposed to water bodies. This has been beneficial for WTRBDY as it has made it easier to maintain and update, and provides with a more defined business purpose and intent. On the other hand, the user's perception of wetlands has become less clear due to two enterprise layers with 'wetland' features. The scope of this proposed project is solely limited to making additions and adjustments to the SAO_WETLAND featureclass to incorporate, as necessary, geometry and attributes from WTRBDY_WET so that WTRBDY_WET can be retired. In a limited way this project should enhance SAO_WETLAND's accuracy while eliminating some of the confusion from the user's point of view.

	During 2008, township-by-township updates to WTRBDY will take place using the new 2007 orthoimagery dataset under development. This will provide the opportunity to complete this wetland consolidation review in concert with review of the imagery for general waterbody updates.
Interdependencies	Coordination with SAO_WETLAND steward DDES, and WTRBDY_WET steward WLRD, and other key stakeholders as necessary. 2007 orthoimagery in enterprise SDW for access.
Status	Not started.
Target	Q3 2008
Activity	▪ Develop project plan in conjunction with two primary steward contacts. ▪ Establish editing procedures to enable coordinated review of WTRBDY_WET while performing imagery-based update of WTRBDY. ▪ Review high-graded WTRBDY_WET information with stakeholders for potential inclusion into SAO_WETLAND. ▪ Incorporate vetted information into SAO_WETLAND and retire WTRBDY_WET.

4.1.4 Application Enhancement and Development

Name	***PostRep/Generate***
Description	This is a set of modularized back-end utilities which includes routines to handle the following: posting of data to the Spatial Data Warehouse (SDW), implementation of schema changes to the datasets, and QA/QC processing of posted datasets. Schemalocks are now deleted to allow posting to SDW. AutoUpdate has been implemented allowing stewards to update on a daily, weekly, or monthly cycle.
Interdependencies	*StewardTool.*
Status	In progress.
Target	2008
Activity	▪ Tune existing *PostRep/Generate* o Add index replication for tables and shapefiles o Add metadata copying for reloaded data o Add connections to remote servers for data ready posting o Add PointLayerFromTable o Add LayerFromRelateTable

Name	***LibTool***
Description	*LibTool* will incorporate the functionality of the ArcView 3.x extensions KC Shapefile Library and KC Image Library. *LibTool* will reflect the major components of their look and feel to assist users in the transition to the ArcGIS 9.x environment. Users will be able to: easily access KCGIS Spatial Data Warehouse layers, imagery, and metadata via an interface that offers “plain English” labeling; and generate maps using standard layouts.
Interdependencies	Coordinate with agencies to incorporate requirements, functionality and “best of” features from various mapping applications. Use *LibTool* development as pilot for multi-agency effort to develop and maintain an enterprise tool.
Status	In progress.
Target	Q1 2008 for prototype and beta. Q2 2008 for full implementation
Activity	▪ Prototype version is underway as of Q3 2007. ▪ Initial modules have been rethought to include the "plibrary picker," as well as "Make a Map" and "Image Locator." ▪ Build, test, and deploy application. ▪ Prioritize, create, and deploy other modules.

Name	***ParcelTool***
Description	This module will be a part of *LibTool* (see above), and will incorporate the functionality of the current ArcView 3.x extension *KC Parcel Tools* that is not handled elsewhere in *LibTool*. Since ArcGIS and online applications handle many of the functions of *KC Parcel Tools*, the development process will begin with a requirements-gathering phase to determine what users need. Expected functionality includes: a button to add cadastral layers, tables and relationships to the ArcMap table of contents; easy cadastral map creation; query attributes (PIN, name); and mailing labels.
Interdependencies	To be developed after *LibTool* is completed and after needs survey has been conducted.
Status	Not started.
Target	2008
Activity	▪ Determine business needs and scope requirements.

Name	***Parcel Viewer***
Description	*Parcel Viewer* is a Web-based application targeting property searches. The simple interface allows users to navigate the map and select parcels, or search for properties using address, cross streets, or parcel number as input. *Parcel Viewer*

	interface will be redesigned in 2007 - 2008 based on feedback from user studies conducted in 2004 and 2006. More space for property information will be provided, and additional search criteria will be added such as city names, S-T-R, and possibly plat names. The address search routines will be improved and an option to display orthophotos will be added. In addition, *Parcel Viewer* will be completely rewritten using ASP.NET 2.0.
Interdependencies	Stability of King County WAN and Internet services, as well as KCGIS Center ArcSDE, SQL Server, and ArcIMS infrastructure.
Status	In progress.
Target	Q2 2008.
Activity	▪ The update of *Parcel Viewer* is directly related to the similar upgrades of the KCGIS Property Report and the Districts & Development Conditions Report from classic ASP to ASP.NET. These reports are being upgraded first, which involves not only the front end presentation changes, but also the back end database tables, stored procedures, and web services (reference the KCGIS Web Service section). These tables, stored procedures and web service functions will be used by Parcel Viewer as well. ▪ These updates began in 2007 and will continue into 2008

Name	***KCGISWebService***
Description	*KCGIS Web Service* is a collection of database search and GIS functions developed by the KCGIS Center and available to programmers as a SOAP compliant web service. This web service makes it possible for applications on any server to easily access specific search and GIS functions on the KCGIS servers in a secure manner. First deployed early in 2006, there are 19 functions as of December 2007 (up from 14 the previous year). This web service is becoming a valuable resource to other King County programmers, and additional functionality will be developed as needed.
Interdependencies	Stability of King County WAN and Internet services, as well as KCGIS Center ArcSDE, SQL Server, and ArcIMS infrastructure.
Status	In progress.
Target	No fixed target.
Activity	▪ Additional functions will be developed and deployed as needed. King County programmers can request new functions during the development cycle of new websites. This web service is deployed on the public GIS web server and is therefore available for use by public sites, however it is expected that this web service will not be generally advertised or listed on web service clearing houses, therefore it will be available mainly by invitation. For example, we may offer to let a local jurisdiction use the web service for conducting select, specific searches of our database from their web site.

Name	**Spatial Data Catalog Thematic Keyword Search Engine**
Description	KCGIS enterprise metadata is improving as stewards continue error-fixing and incremental enhancements. At the same time the number of data objects in the Spatial Data Warehouse continues to increase. The improved Spatial Data Catalog (SDC) front end deployed during 2007 vastly improved the look-and-feel of the SDC as well as standardized the publication workflow and content. Still, the SDC has limited search capabilities with queries dependent on user familiarity and visual scanning. A keyword-type search engine does exist for internal users via the GIS Data Locator application, but even this application depends on a single, very open-ended, keyword search methodology and can produce results challenging for the unfamiliar user to manage efficiently. The FGDC content standard for metadata provides for association of from one to several thematic keywords to a dataset to allow users to associate the data with colloquial, descriptive terms that define its use, content and thematic associations. Currently KCGIS enterprise metadata encodes, by default, a suite of three thematic keywords to which stewards can add-to or modify. Only the first keyword has a required domain, that being the name of the thematic library (same as SDE owner) with which the data is associated (i.e., PLANNING, TRANSPORTATION, etc). Even with the current state of the metadata, a web-based search engine could be developed to allow Boolean and conditional queries of the thematic keywords returning selected data lists with links to their full metadata. This application would be hosted in the same way as the current SDC, allowing the public web portal to be used for these types of queries. The current alpha/steward/library access options for the SDC would remain, but deploying a keyword search option would enable more efficient use of enterprise GIS data and would provide tools similar to those found on many of the major Internet search engine portals.
Interdependencies	Continued enhancement of enterprise metadata to improve thematic keyword associations. This would benefit from a precursor step to develop a standardized list of recommended keywords, possibly associated with the requirement for the first three keywords to be from a constrained domain set. Functionality and design requirements development to determine level of functionality that provides required performance and results while providing the public and internal user an effective and easy-to-use way to search through metadata. Database designer to implement back-end components. Web-based developer skills and labor to develop front-end query and display components.
Status	Not started, but as noted, sufficient information is present to populate and test a database and front-end interface.
Target	Q1 2008 for work plan for application and data design and updates. Q2 2008 for prototype back end and front end. Q3 2008 deployment.
Activity	▪ Enhance existing enterprise metadata quality control to more rigorously enforce first through third keyword associations.

	▪ Further develop, with user input, current prototype list of thematic keywords to improve consistency and use. ▪ Develop requirements for back end and front end components for best coordinated design. Design must support one to many data to keyword relationships and efficiently process multiple keyword requests in a Boolean query. Front-end must allow rapid pick or text box entry of keywords for query submission. ▪ Develop back end and front end components. At same time enhance current KCGIS style sheet to include "drag and drop" links to LYR files for easy addition to ArcMap applications directly from metadata. ▪ Test design with pilot data, revise design as necessary. ▪ Work with selected set of stewards to update metadata for more rigorous testing. ▪ Test design with downstream users to tailor query logic and/or keyword associations. ▪ Deploy application on Spatial Data Catalog.

4.1.5 Hardware, Software, Database, and Licensing Changes

- Consolidation of certain ESRI software licenses currently maintained on departmental servers with those maintained on KCGIS Center servers may occur during 2008. A workgroup has identified and assessed technical and institutional issues which need to be resolved if such a consolidation is to be implemented. A proposal and recommendation by that group was placed before the KCGIS Technical Committee in November 2005. The Technical Committee has yet to reach a consensus regarding the proposal. Four Technical Committee agencies have initially indicated they will not participate in license consolidation or have expressed serious reservations. In 2008 further attempts will be made to convince all agencies to participate and decisions will be made accordingly before proceeding with consolidation.
- The KCGIS Center production server housing the Spatial Data Warehouse, and the infrastructure supporting the *iMAP* and *Parcel Viewer* Internet mapping applications were identified as critical applications by the King County continuity of business study. As a result, these systems will be fully replicated at an alternate data center outside of downtown Seattle. The Alternate Data Center is scheduled to come on-line in January 2008. Backup GIS systems have been purchased and configured at King Street Center. These systems will be installed at the alternate data center during the first quarter of 2008 by KCGIS Center staff.
- The network attached storage device that contains DNRP GIS projects (DNRP1) requires an operating system upgrade because Microsoft is dropping patch support for Windows 2000. This device runs a network appliance version of Windows 2000 Server. The data on this device will be moved to a new iSCSI storage array to be attached to server GISPROD.
- Development spatial servers for ArcIMS will be replaced in late 2007 with two servers currently used in production. Two new production servers have been acquired. The new servers are Gateway dual-core AMD Opteron systems.
- In 2008 desktop PC replacement in the KCGIS Center will continue on a modified four year cycle. Some 4-year old machines that are still functional may remain in service in order to maintain an adequate development/testing environment for GIS application developers.
- Two obsolete plotters were sent to surplus in 2007. To replace these machines an HP Designjet 130NR was acquired to provide pre-production proofing capability.
- Major updates planned for 2008 include replacement of the SQL server supporting GIS interactive web applications, replacement of the network attached storage device located at the

RCECC, replacement of the KCGIS Center tape backup library, and acquisition of two addition iSCSI storage arrays to replace direct attached SCSI arrays purchased in 2001.

4.1.6 Staffing Changes

- The KCGIS Center staffing model is developed in coordination with the KCGIS Oversight Committee. For 2008 the overall budgeted staff level remains unchanged from 2007 at 31.0 FTEs. However, the FTE allocations for two of the business units change for 2007. Refer to the following bullets.
- **Matrix Staffing Services** – The staffing allocation decreases from 13.40 FTE in 2007 to 12.40 FTE in 2008 for a net change of -1.00 FTE. This change is based on the elimination of 1.00 FTE of matrix support for the Department of Assessments. Six agencies are supported through Matrix Staff Services in 2008 at the following levels: DNRP – Parks and Recreation (1.25 FTE); DNRP – Solid Waste (1.00); DNRP – Wastewater Treatment (3.30); DNRP – Water and Land Resources (4.00); DOT – Road Maintenance (1.00); and DOT – Transit (1.00).
- **Client Services** – The staffing allocation increases from 5.00 FTE in 2007 to 6.00 FTE in 2008 for a next change of +1.00 FTE. This change is based on reallocation of 1.00 FTE from Matrix Staff Services. One of the FTE positions in Client Services is vacant. Currently salary savings from this position are being used to fund a TLT and a STT. Client Services project work for the TLT and STT will carry over into the first quarter of 2008. Retaining the TLT and STT after the first quarter will depend on continued high demand for Client Services.
- **Enterprise Services** – The staffing allocation remains unchanged at 12.60 FTE.

4.1.7 Other Changes

- With implementation of the 2008 budget the KCGIS Center will eliminate one of its two cost centers. This is strictly an internal administrative change, and has no effect on the operation of the KCGIS Center. When the KCGIS Center internal service fund was established in 2001, two cost centers were created, one for enterprise operations and client services (3181), and one for matrix staffing services (3182). As it turns out, the separate cost center for matrix staffing services provides no benefit, and actually makes financial tracking and accounting more difficult. KCGIS Center financial systems currently in place are more than adequate to track revenues and expenditures for the three business units, independent of the two cost centers. In January 2008, the 3182 cost center will be zeroed out, with all funds transferred to 3181.

4.2 Department of Assessments

4.2.1 Agency GIS Overview, Priorities, and Goals

- The mission of the department of Assessments is to serve the citizens of King County by providing fair, equitable and understandable property valuations, forming the basis for funding of public services. The Department of Assessments is responsible for discovering, listing and valuing all taxable real and personal property within King County for preparation of the tax roll. GIS is used in the department in support of the above stated mission.
- GIS within the Department of Assessments is used in valuing property, defending valuation methods and estimates, maintaining public records including maps, legal descriptions and taxing district boundaries, administering exemptions and calculating levy rates. GIS provides easy access to data that is valuable for performing Assessments business functions. GIS is used in many aspects of the Department's business functions including but not limited to:
    - *Property Appraisal* – Appraisers use GIS maps, applications and data when valuing property. GIS is used for data retrieval and analysis. In addition, GIS is used to update property characteristics.
    - *Map/Property Boundary Maintenance* – GIS is used for discovering and listing taxable real property within the County. Assessments is responsible, under RCW 84.40.160, for maintenance of property configurations within King County. GIS is being used to fill this responsibility. Over time, the old quarter section Mylar maps are being retired and being replaced by maps generated from GIS data. Numerous agencies and individuals both within and outside the County access GIS property boundaries maintained by Assessments.
    - *Exemptions* – Assessments administers a portion of The Open Space Act (Chapter 84.34 RCW), which provides for current use assessment of farm and agricultural land, timber land and other open space land. Once land is classified, taxes are based on the current use value of the land rather than its highest and best use. Assessments must maintain both current use value and market value on these properties. GIS provides analysis and mapping of characteristics unique to Current Use Exemption monitoring.
    - *Annexations/Levy* – GIS is used to produce maps and data for internal use specific to the Assessment calendar year. GIS is used to generate the taxing boundaries. From this, maps and lists are generated for Washington State Department of Revenue for apportionment of utility valuations and the state levy.
    - *Appeals* – GIS data and analysis are used as evidence and support for defense of valuation decisions.
    - *Miscellaneous Property Related Analysis/Public Information* – GIS is used for validation of proposed annexations, property search and information requests, Assessor maps, public notification of neighboring properties and other public agency requests.
- GIS implementation takes place throughout Assessments. The Accounting Division Manager oversees the GIS Specialist staff as well as the mapping unit supervisor. The GIS professionals who maintain the cadastral data report to the mapping unit supervisor. The GIS coordinator reports to the Accounting Division Manager. The IT Division Manager manages staff to integrate GIS into department wide applications. Within the Commercial and Residential appraisal divisions, there are appraisers with GIS expertise that lead various efforts within these divisions. The four division managers are peers within the department.
- Assessments will derive new benefits from GIS in 2008 in applications, data and internal processes. From the application side we plan to switch from MapObjects to ArcEngine in our in-house applications. This will allow appraisers to access GIS in the field. The switch to ArcEngine should let users to see more data layers thus providing them with a more complete picture of a

parcel. With the completion of the KCGIS Center *AVLib* like tools for ArcGIS 9.x we are looking for a somewhat smooth transition for our ArcView 3.x users as well. The tools should provide some menu driven query capability that will mean one less hurdle for users to transition away from ArcView 3.x. The move to ArcGIS 9.x will provide us with access to layers that are no longer available through ArcView 3.x. From the data side, the department is eagerly awaiting the availability of the Pictometry imagery. Access to current imagery will support not only mapping and appraisal activity but also appeals and administration of the Open Space program. Mapping will continue its efforts to improve the positional accuracy of the cadastral data. We expect the work on SeaTac to continue into 2008. We will continue to pursue partnerships with other jurisdictions. Extra staff is not available to Assessments in 2008 as it was in 2007 so positional improvements will be prioritized against other mapping assignments. Assessments would like to make improvements to the cadastral data by implementing the history and archiving capabilities of ArcGIS 9.2. We will work with the KCGIS Center and other stakeholders to move this forward. With the move to ArcEngine, we also plan to access the parcel data via a file geodatabase rather than shapefiles. Finally, we will begin development of the individual taxing district GIS layers. This is a big project with only one staff member available to work on it. From the processing side we expect to see improvements in our annexation process as we leverage the tools available in GIS for exporting data in various formats.

- As the PBRS replacement project moves forward with the RFP process throughout 2008 staff from Assessments will be called upon to participate. It is unknown at this point what implications the project will have for GIS.

4.2.2 Planned Project Activity and New Projects

Name	**SeaTac Redraw**
Description	Redraw areas of the City of SeaTac where the positional accuracy is unacceptable to the city.
Interdependencies	Staff availability as hired by SeaTac. Assessments staff time to prepare data, work with and train SeaTac staff.
Status	In progress
Target	2008
Activity	▪ Research problem areas. ▪ Determine correct data to be used for redraw. ▪ Build exterior plat and quad boundaries as necessary. ▪ Build and code interior data. ▪ Move annotation to correspond to new linework. ▪ Integrate into KCAM database.

Name	**ArcView 9.x Implementation**
Description	Move appraisers from ArcView 3.x to ArcView 9.x
Interdependencies	Adequate computer systems. Deployment of *LibTool* and *ParcelTool* replacements for ArcGIS by KCGIS Center.

Status	In progress
Target	2008
Activity	▪ Using hardware replacement funds to purchase new tablets and laptops for appraisers that are running old machines. ▪ Install ArcView9 on appraiser machines. ▪ Training.

4.2.3 Data Enhancement and Development

Name	**Taxing District Boundaries**
Description	Development of GIS layers for the individual taxing districts in King County.
Interdependencies	Staff time.
Status	In the planning stages.
Target	None.
Activity	▪ Data model design. ▪ As a starting point, dissolve out district data from KCACODE (levy code) layer. ▪ Compare results to district Mylars. ▪ Review each district boundary discrepancy for compliance with district legal description. ▪ Add historic boundaries as time allows.

4.2.4 Application Enhancement and Development

Name	**Assessments Data Access Applications**
Description	Several data access applications for Assessments written in MapObjects 2.2 will be replaced with ArcEngine based tools when the application is migrated to .NET
Interdependencies	ArcEngine learning curve.
Status	In progress.
Target	2008
Activity	▪ Define, build and test tools for data access. ▪ Train users.

4.2.5 Hardware, Software, Database, and Licensing Changes

- Replace broken HP 5500 plotter with HP Z6100.

4.2.6 Staffing Changes

- None anticipated for 2008 although retirements in mapping are always a possibility.

4.2.7 Other Changes

- None anticipated.

4.3 Department of Development and Environmental Services

4.3.1 Agency GIS Overview, Priorities, and Goals

- The mission of the Department of Development and Environmental Services (DDES) is "to serve, educate and protect our community by shaping and implementing King County's development and environmental regulations." To carry out this mission the department is responsible for receipt and review of building and land use permits, inspection of building construction and land development, and for administration and enforcement of building, land use, fire, and environmental codes. DDES has jurisdiction in unincorporated King County and has approximately 235 employees organized into four divisions, and the Director's Office. The four divisions are Administrative Services, Building Services, Fire Marshal, and Land Use Services.
- Core business functions of DDES supported by GIS include the following:
    - Permit Receipt (Intake) – GIS tools and data sets are essential to successfully conduct intake review and complete the permit application process. Site location, zoning, development conditions, critical areas and other land related factors are identified and confirmed. Permit viability is assessed, permit requirements determined, and permit routing initiated.
    - Permit Review – GIS tools are used in several sections of the department to support permit review. The Site Engineering and Planning Section uses them to generate a series of maps for each project under review. The Plan Review Services Section uses them to guide decisions on building requirements. The Current Planning Section uses them to determine development conditions, historic zoning, and planning requirements.
    - Inspection and Enforcement – GIS tools are used by the various inspection and enforcement sections of the department to determine inspection areas, project assignments and to balance inspection and case workloads. The Fire Investigation Section uses GIS maps to support prosecution of arson crimes.
    - Regulatory Review – The Land Use Division and Director's Office use GIS tools to develop planning proposals for regulatory control. GIS techniques are also used in regulatory programs including the Critical Areas Ordinance, the Endangered Species Act, and the Growth Management Act.
    - Public Information – GIS maps, data, and applications are used extensively in the department for public information and education. Environmental and regulatory data are depicted using GIS techniques on maps and atlases, and in newsletters and bulletins. Property-based data are disseminated to the public via customized Internet applications.
- The IS Section is responsible for carrying out the GIS program plan for the department. The Section Manager is the IT Service Delivery Manager for DDES. The GIS, programming, technical support, network administration, database administration, and addressing staff report to the IS Section Manager. In order to reduce time needed to deliver department services, enhance permit review, and support decision-making, the IS Section provides the following GIS services to the staff, customers and stakeholders of DDES:
    - Geographic analysis presented in the form of maps, graphics, data files, and reports.
    - Development, integration, and maintenance of enterprise and agency geographic data sets.
    - Development and maintenance of customized end user applications.
    - Custom map production services.
    - Data conversion to ensure consistency between the GIS and the permit system.

- Requests for assistance come directly from DDES staff to the DDES Help Desk, or to GIS analysts. Large requests that impact existing systems, or multiple sections, require more formal requests to the IT Service Delivery Manager. After requests have been evaluated, they are routed by the Lead GIS Analyst to appropriate GIS staff for response.
- The Lead GIS Analyst works with the IT Service Delivery Manager to coordinate internal efforts, ensure efficient use of GIS analyst/programmer time, and coordinate GIS data development and maintenance with other agencies.
- The IS Section of DDES participates in the successful exchange of data among many King County agencies. Planning and permitting data are provided to other agencies through participation in the KCGIS Spatial Data Warehouse (SDW). Property data from the Department of Assessments and environmental data from the Department of Natural Resources and Parks are acquired through the KCGIS SDW and direct data exchanges. IS section GIS Analysts take an active role in facilitating data sharing between DDES and other King County agencies.
- DDES GIS analysts actively participate in the county-wide GIS program. The Lead GIS Analyst has vice-chaired and chaired the KCGIS Technical Committee in previous years. Each analyst participates on at least one sub-group of the KCGIS Technical Committee. DDES has assumed a proactive role in working with the KCGIS Center to help develop procedures and best practices for the coordination of GIS efforts in King County.
- The main opportunities for DDES GIS lay in the continued development of *GISMO* and the Permit Integration project that began at DDES in 2006. The release of *GISMO* 2.0 will provide many benefits and opportunities:
    - Alleviate the increasing maintenance load of the archaic ArcView 3.x applications.
    - Provide DDES with the tightest possible integration with new interdepartmental permit applications and processes that come out of the Permit Integration project.
    - Bring an end to the de facto moratorium on adding new functionality to custom DDES GIS applications during GISMO development.
- An ongoing challenge for DDES GIS is the fast pace of software upgrades coming out of ESRI. With each upgrade come features that drive the entire KCGIS community to adopt the new versions. However, each upgrade must be tested carefully for newly broken functionality, and incompatibilities that require extensive revisions of our various applications and utilities. The KCGIS Center is now on version 9.2 of ESRI server software, and DDES GIS staff time is consumed upgrading our servers to maintain interoperability before time can be devoted to *GISMO* development. The as yet unknown schedule for the Permit Integration project may present additional challenges for meeting application development deadlines.

4.3.2 Planned Project Activity and New Projects

Name	**Back Office Automation**
Description	The purpose of back office automation is to take advantage of the successful KCGIS software migration, the geodatabase data format, the model builder, and the scripting tools in ArcGIS to automate several data duplication, formatting, and processing steps that were formerly done manually using ArcView 3.1, and MS Access.
Interdependencies	Certain specific processes depend on coordinated effort between DDES and the KCGIS Center.
Status	In progress.

Target	2008
Activity	▪ Automate open permits GIS layer generation. ▪ Accommodate the authoritative addressing database when it becomes available. ▪ Rewrite the Table to FC python script to improve performance of many DDES modules. ▪ Automate monthly data tasks.

Name	**Permit Integration Project**
Description	The Permit Integration Project (PI) is an effort to upgrade and integrate King County permitting processes. The PI is expected to integrate data between multiple King County agencies. DDES is the lead agency. While the specific goals for the DDES GIS program are not yet defined, preliminary expectations are that an ArcIMS or ArcGIS Server based web service will be developed to provide geographic parcel characteristics to the permit system, utilizing on-demand spatial overlay. This integration effort will coincide with the ongoing development of *GISMO*. This coincidence of timing offers an excellent opportunity to dramatically improve the DDES GIS user experience.
Interdependencies	DDES GIS participation in PI is dependant on the outcome of successful requirements, product selection, and design steps.
Status	In progress
Target	2009/2010
Activity	▪ Participate in scoping. ▪ Participate in vendor product evaluation. ▪ Participate in defining project goals. ▪ Define existing processes and interactions of the DDES GIS for project staff.

Name	**Critical Area Designation Data Project**
Description	The Critical Areas Section has obtained a handheld PDA/GPS device that will run ArcPad and be used to collect critical area features for a new GIS layer. The new layer will be used in conjunction with existing sensitive areas layers, and the existing CAO_DESIGNATION layer to provide critical areas staff with the best available data. In the long term the scanned drawings linked from the CAO_DESIGNATION layer will be digitized and added to the new layer as well. In the short term more types of drawings and plans will be integrated into the CAO_DESIGNATION layer.
Interdependencies	This project is dependant on the Critical Areas Section work plan to implement the various procedures and methods that are developed for this project.
Status	In progress.

Target	2008
Activity	▪ Update CAO_DESIGNATION layer to accommodate manually scanned images. ▪ Install and configure ESRI ArcPad on handheld PDA/GPS device. ▪ Configure ArcMap and ArcSDE settings to facilitate checking out data to take into the field for Critical Areas Section. ▪ Prepare training materials. ▪ Train Critical Areas staff on field capture with ESRI ArcPad software. ▪ Develop new GIS layer for field captured features. ▪ Develop new utilities for integrating field captured features into the new GIS layer.

4.3.3 Data Enhancement and Development

Name	**Shoreline Management Program Update**
Description	Develop new criteria for Shoreline Management Designations, apply designations to shorelines of the state, and replace the existing SHORELINE_MMP layer in the KCGIS Spatial Data Warehouse.
Interdependencies	This effort is a collaboration between DNRP and DDES, with the lead taken by DNRP. The DNRP WLR Visual Communications Unit GIS staff have developed the new layer.
Status	In progress.
Target	2008
Activity	▪ Implement new Shoreline Management Designations in *Base2*, *GISMO*, *iMAP* S*ensitive Areas* map set, the *Districts Report* and any other resource required by DDES staff.

Name	**Authoritative Addressing Database**
Description	Replace existing redundant property address layers maintained by various county agencies with one consolidated layer based on the database currently under development by the E-911 Program Office. The new layer will reduce confusion for King County property owners by eliminating conflicting addresses at various agencies. The goals of the new layer are: to facilitate providing new and corrected addresses to the E-911 Program Office; improve accuracy; and be authoritative across all municipal jurisdictions of King County.
Interdependencies	This effort is dependant on the E-911 Program Office project currently underway. It is facilitated by the KCGIS Authoritative Address Workgroup. Progress on this effort is dependant on available staff time of all participating agencies.
Status	In progress.

Target	2008
Activity	▪ Participate in workgroup effort to produce a Business and Technical Requirements Document for a web application developed by the KCGIS Center. ▪ Participate in workgroup effort to develop procedures and standards for submitting changes to the E-911 Program Office. ▪ Implement new procedures and standards at DDES for submitting changes to the E-911 Program Office ▪ Change DDES addressing practices to use Authoritative Addressing Database as source for all address data. ▪ Capitalize on opportunities provided by the Permit Integration project to use the Authoritative Addressing Database.

4.3.4 Application Enhancement and Development

Name	**Development Condition Spatial Search**
Description	Replace the existing tabular Development Condition Search Engine with a GIS overlay search application. Will use .NET and either ArcIMS or ArcGIS server technology.
Interdependencies	Leverages .NET code from *GISMO*, and a non-GIS DDES web application called *Billing Notes*.
Status	Not started
Target	2008
Activity	▪ Write functional specification. ▪ Application implementation. ▪ User testing. ▪ Application deployment.

Name	***GISMO*: Release 2.0**
Description	In release 2.0 *GISMO* will add the following features which previously had been provided through *Base2*: ▪ On screen map display, including pre-symbolized map themes. ▪ Interactive spatial layer query of map themes. ▪ PDF based, hard copy map output, providing both fixed and user specified scales, as well as map standards compliant layouts.
Interdependencies	Successful completion of *GISMO 2.0* will allow *Base2* to be retired.

Status	Started.
Target	2008
Activity	▪ Write functional specification. ▪ User testing of prototypes. ▪ Application implementation. ▪ User testing. ▪ Application deployment.

4.3.5 Hardware, Software, Database, and Licensing Changes

- DDES purchased five HP Proliant ML350 servers late in 2007. These five servers will be configured in the first quarter of 2008 to replace the existing GIS servers: production data, production application, staging data, staging application, and one spare. Each machine will have 2 dual core Xenon processors, and 4-8GB of RAM. The data servers will have fiber connections to the DDES storage area network. Please refer to the DDES server listings in the appendix for more detailed information.
- In the fourth quarter of 2007 DDES purchased two ESRI Developer Network licenses. For 2008, DDES has approved the budget necessary to upgrade to or purchase production and staging licenses for ArcGIS Server Advanced Enterprise, and a staging license for ArcGIS Server Basic Enterprise. In conjunction with existing licenses this will enable DDES to have a full set of development, testing, and production environments for DDES GIS applications and data. This will all be deployed in version 9.2 on the new hardware, and will replace the existing 9.1 deployment on the old servers. At the same time, MS SQL Server 2000 will be upgraded to MS SQL Server 2005. The upgrade of ArcSDE (now renamed ArcGIS Server Basic Enterprise by ESRI) from 9.1 to 9.2 will take place early in the first quarter of 2008 with the other upgrades to follow as soon as possible.

4.3.6 Staffing Changes

- During 2007, one of the four GIS FTEs became vacant. DDES is anticipating a drop in permits due to annexations in 2008. As a result the vacant FTE will not be filled for now and we will look to temporary resources for this position until annexations take their full effect.

4.3.7 Other Changes

- No other changes are expected.

4.4 DES – Emergency Management Division, E-911 Program Office

4.4.1 Agency GIS Overview, Priorities, and Goals

- The mission of the Emergency Management Division, E-911 Program Office (E-911) is to provide leadership and high quality service to improve the safety of the public in King County. The E-911 Program Office is committed to providing public safety solutions and support to 13 Public Safety Answering Points (PSAPs) in King County. PSAP support includes technical, GIS, administrative, and financial funding from the 911 tax. The E-911 Program Office ensures continued effective operation of the E-911 System so that high quality 911 service is provided to the public, regardless of the technology used to call for help.
- The core E-911 GIS activities are to ensure that the GIS based XTrakker maps are working to display each and every 911 call that comes into the PSAP. That cell tower information coming in from seven different wireless carriers is kept up to date and integrated onto the mapping for display at the PSAPs. That Voice over Internet Protocol (VoIP) calls are visible on the map when a caller makes a 911 call. That address and street information are verified from all 39 city addressing authorities when changes, updates, additions and/or deletions are reported to the E-911 MSAG Coordinator. That verified addresses are appended to the address information in the E-911AddressPoint Layer. To work in coordination with county and city GIS agencies to formulate an authoritative address layer that will be used by government, non-government and private agencies for address verification in King County. To make sure that up-to-date GIS data is uploaded on to the new XTrakker map application. To ensure that new telecommunications technologies introduced into the public sector to communicate with E-911 are geographically locatable on the XTrakker map application. For the 2008 years, continue to work with MicroData GIS mapping vendor for support on software, hardware and data related to 911 and GIS. Finally, to ensure that call taker staff at PSAPs are trained on how to use the GIS based location identification software primarily the XTrakker map application.
- The E-911 GIS Mapping Administrator and the E-911 GIS Mapping Analyst work in coordination to provide support to 13 PSAPs of King County 24/7. GIS staff report directly to the E-911 Program Manager.
    - The E-911 GIS Mapping Administrator and the E-911 GIS Mapping Analyst will be required to keep current with updates to GIS layers that have been modified by the KCGIS Center, Transit, KCEGIS, and any other participating GIS agencies from which E-911 acquires GIS data. The E-911 GIS Mapping Administrator and the E-911 GIS Mapping Analyst will report any data discrepancies back to the providing agency when discovered by the E-911 program or PSAP staff. The E-911 GIS Mapping Administrator or the E-911 GIS Mapping Analyst will field locate residential, business, public, and other geographic entities reported to the MSAG Coordinator by an address authority or to meet a specific PSAP request for site or street verification. Primary duty of the E-911 GIS Mapping Analyst will be to site verify information reported to the MSAG Coordinator by an address authority. GIS data will be collected and processed through the x9GIS software and updates will be transmitted to the PSAPs as well as to KCGIS and city GIS agencies working in conjunction with the E-911 Program Office.
- Both GIS professionals are responsible for maintenance and management of the GIS data used on the map displays as well as coordinating GIS data information with King County GIS Center staff, the TNET group, and city, county, state, 911 GIS offices. The E-911 GIS Mapping Administrator is responsible for keeping the E-911 GPS Address project on task, notifying PSAP and police agencies about data collection in their jurisdiction, responding to public requests for information about the address project, vendor requests for information and GIS data, and assisting in field data collection outside of the E-911 GPS Address project's scope of work. Furthermore, the GIS Mapping Administrator will be tasked with the responsibility to make sure mapping is functional and working at all 13 PSAPs. The E-911 GIS Mapping Analyst is also responsible for GPS field data collection and responding to public requests for information about

the E-911 Address project. Primarily the GIS Mapping Analyst will be in the field verifying address information sent to the MSAG Coordinator.

- E-911's core customer base is comprised of the 13 Public Safety Answering Points (PSAPs) that handle 911 emergency calls and route requests to appropriate public safety agency staff for response. PSAPs are located throughout King County serving regional populations and/or local areas confined by city boundaries.
- The GIS business strategy of the E-911 Program Office primarily supports the use of GIS applications and data to locate wireless, wireline and VoIP 911 distress calls. These wireless, wireline, and VoIP distress calls are displayed on the XTrakker map viewer software installed at each King County supported PSAP. XTrakker is a specialized GIS based application from MicroData GIS, designed for PSAP use to automatically display caller location and provide discrepancy reports. Each PSAP call taker and/or dispatcher phone is attached to an XTrakker map application that uses KCGIS data necessary to support accurate call location determination.
- The E-911 Program Office also distributes required GIS data to the PSAPs. The primary current location data source is the KCGIS ST_ADDRESS layer. In the future, ST_ADDRESS will be replaced by a hybrid road layer generated from ST_ADDRESS and TNET for use on the XTrakker map application at the PSAPs. The E-911 GIS Program processes KCGIS data using a MicroData ArcGIS based extension called X9GIS. X9GIS converts KCGIS data from the state plane coordinate system into geographic coordinates (latitude and longitude) and performs other data formatting required by XTrakker to locate wireless, wireline, and VOIP 911 calls. The X9GIS software is an extension onto ArcGIS 9.2. E-911 GIS also provides other data layers, such as coverage areas, cell tower locations, and dispatch zone boundaries. Individual PSAPs may also request custom data, such as specific site or building locations, or integration of local computer aided dispatch (CAD) data. These data are also processed by E-911 using X9GIS software. Once processed, E-911 distributes GIS data via 911-Net, a closed network providing secure access to each PSAP.
- Key strengths of the E-911 GIS program include a fully operational environment that has proven its ability to deliver highly accurate KCGIS data supported by an effective front end application to facilitate the work of PSAP call takers. Coordination by the E-911 Office and all 39 address authorities to report address information to the E-911 MSAG Coordinator. XTrakker software provides an effective data management and exception reporting tool for administration of E-911 GIS data. Staffing limitations in responding to all PSAP GIS data and support requests are mitigated somewhat by the use of work study program staff.
- Opportunities include future coordination with the KCGIS Center to exchange GIS data with city GIS departments. Coordination of site point data exchange through an authoritative address layer and updates between E-911 and KCGIS during and after the E-911 GPS Address project is complete. E-911 GIS is also in a good position to communicate key changes to county geography (new streets and facility locations) on a near-live basis to the rest of KCGIS.
- A key challenge will be to keep up with the new and changed address information after the completion of the E-911 GPS Address project so that the address data base does not fall behind will be challenging for E-911 GIS staff. In order to keep city and county address information that has changed, been updated, and added through new development in King County, the E-911 Program Office GIS and MSAG coordinator staff is currently in the process of a face-to-face meeting with all 39 city addressing contacts. The meetings are set up to introduce the E-911 GPS Address project to the individual cities and their address coordinators so that they are aware of the extensive address data collection effort. The meetings are also to ensure that they continue to provide the E-911 MSAG address coordinator with the most up-to-date address information in their jurisdiction that includes address changes, new addresses, and in some cases future development.
- The key long-term goal of the E-911 Program Office is to keep up to date with changes within the E-911 industry. A major component of the long-term goal is to keep mapping up-to-date at the PSAPs with the latest geographic changes which includes an x, y location of all addressed

structures within King County. This mapping system is used to identify the location of wireless 911 callers on a map at the call answering positions. Currently caller locations are identified as a latitude/longitude location, and there is no association of the caller's location with an actual street address. It is becoming more important for caller locations to be associated with specific addresses. In order to accomplish the address association in the mapping system, the addresses throughout King County must be GPS located. Wireless 911 distress calls to PSAPs have increased steadily over the last few years. GIS is an essential tool to help locate wireless 911 distress calls.

- E-911 GIS Program's role within KCGIS is primarily as a data coordinator out to PSAP end users. E-911 GIS is also in a key position to notify KCGIS data maintainers of data update or accuracy enhancement needs and will coordinate the exchange of address information related to the E-911 GPS Address project.

4.4.2 Planned Project Activity and New Projects

- None.

4.4.3 Data Enhancement and Development

Name	**E-911 Address Point Enhancement**
Description	Keep up-to-date the GPS address locations of addressable site points in King County for the E-911 Map application. Address points will be used to accurately pinpoint 911 emergency calls for dispatch. With a variety of wireless and land line phone services being used by the public to call 911, GPS address locating building points will vastly improve the abilities of emergency response personnel to locate callers. Through aerial imagery and field verification address points are added to the E-911 address point layer.
Interdependencies	DOT-Transit, the KCGIS Center, and individual city address contacts.
Status	In progress.
Target	Ongoing
Activity	▪ Use the x9GIS software and GPS field collection software to keep up-to-date address information for King County after the E-911 GPS Address Project is complete. ▪ Upload weekly updates to the KCGIS Spatial Data Warehouse and PSAPs on new and updated address and street information. ▪ Field verify new address points and address changes reported to the MSAG coordinator from an address authority.

Name	**Match PSAP Roads Layer line work to T-NET Roads Layer**
Description	Match the PSAP roads layer line work with T-NET roads layer. This body of work will bring up-to-date the street line work of the PSAP roads layer to T-NET.
Interdependencies	KCGIS Center and T-NET.
Status	Tentative

Target	Mid 2008
Activity	▪ Investigate the possibility of MicroData designing a tool to identify roads in T-NET that need to be added to the PSAP roads layer. ▪ Hire TLT to do the work.

Name	**Ali Database to match E-911 GPS Address Point Layer**
Description	Match the E-911 (Automatic Location Identification) Ali, address database to the E-911 GPS Address Point file layer. Through use of a MicroData designed tool, E-11 GIS staff can batch process Ali database records against the E-911 address point file. The report generates a fall out list that highlights address anomalies in the Ali database that will be reported to the individual address authority responsible for the jurisdiction in question.
Interdependencies	KCGIS Center and individual address authorities.
Status	In Progress
Target	On going
Activity	▪ Run the X9GIS MicroData tool to generate address fall out report. ▪ E-911 GIS staff and MSAG Administrator investigate address anomalies. ▪ Forward address questions and discrepancies to address authority for final say.

4.4.4 Application Enhancement and Development

- No activity planned in this area.

4.4.5 Hardware, Software, Database, and Licensing Changes

- Purchase and install 13 3.5TB Dell Power Edge Servers for Pictometry Imagery, one at each PSAP.
- Purchase and install 13 400GB Dell Power Edge Servers for XTrakker map application, one at each PSAP.

4.4.6 Staffing Changes

- One FTE E-911 Ali Database Administrator
- Possibly one TLT GIS Analyst.

4.4.7 Other Changes

- None anticipated.

4.5 DES – Records, Elections, and Licensing Services Division

4.5.1 Agency GIS Overview, Priorities, and Goals

- The mission of the Records, Elections and Licensing Services (REALS) Division is to provide innovative, responsive and accessible services to residents, communities, businesses, King County departments and private entities to effectively meet our customers' needs.
- The Division's strategic goals are to increase public access to and awareness of services. To promote and facilitate compliance with laws and regulations to ensure voter enfranchisement, public safety and animal welfare. To utilize technology and other means to help provide high quality, responsive customer service at reasonable costs throughout the division. To develop and support a workforce that continues to successfully balance the need to meet increasing service expectations with limited available resources.
- The King County Elections GIS (KCEGIS) work unit is physically housed in the new King County Elections facility located in Renton Washington. The address for the new Elections office is: 919 SW Grady Way, Renton WA 98057. The GIS Program Manager reports to the Elections Technical Services Manager for operations and maintenance of Election related work programs. The Program Manager also interfaces with the Division Management Team, and/or appropriate department staff for coordination of cross-departmental projects. Customer service for both internal and external clients is reviewed and approved by the Program Manager. This is accomplished by coordinating special projects and requests with the KCGIS Center, to determine which agency should respond to the request. KCEGIS provides client services to support staff efforts in REALS, DES and numerous other internal County agencies.
- On November 19th, 2007, the King Council adopted ordinance No. 15971 which effectively separates the Elections Division from the REALS Division, within the Department of Executive Services (DES). The final impact and issues related to GIS staffing, existing program support, and other issues has not been resolved at the time of submittal of this report.
- In 2008, three FTE GIS analysts and one TLT GIS analyst will report to the Program Manager. These analysts perform duty assignments supporting five basic business areas: political redistricting, minor taxing district boundary maintenance, voter registration, election support, and customer service. Duties and job responsibilities are shared between GIS staff, with the division of labor coordinated and assigned by the Program Manager. Although the workload is distributed evenly between staff members, one GIS analyst is responsible for supporting the ongoing data maintenance needs and requests of the Voter Registration section, one GIS analyst has the primary responsibility for data integration and maintenance to the district themes, and one analyst handles special data requests and all production related issues. The one GIS TLT positions will be working on various GIS projects, providing data maintenance, integration, data QC, election specific application development, supporting the transition to Vote By Mail (VBM) with mapping and data analysis, and assist in client support to offices and agencies within DES. Although the TLT position is funded specifically to support the VBM transition, all GIS staff will be working on the Regional Vote Center (RVC) mapping, analysis, and related precinct consolidation work, to prepare for the transition to all vote by mail in 2008.
- The services provided by KCEGIS staff include GIS data analysis, census demographics, cartographic production and CD and map sales. These services are also provided to the general public and clients outside the County organizational structure. In 2007, KCEGIS staff provided approximately 75 CDs and approximately 400 paper maps containing spatial data. Eighty-eight different map products are produced and maintained and are also available as pdfs on the Elections website.
- The KCEGIS workgroup is currently understaffed for implementation of greater GIS technologies. Opportunities exist for new applications but staff resources are limited to maintaining current data and responding to the existing data and analysis requests. The planning for this effort will be

communicated to all DES GIS stakeholders and coordinated with the guidance of the Information Technology Service Delivery Manager (ITSDM) for DES.

- The King County Elections GIS (KCEGIS) work unit has the primary GIS responsibility for the creation, integration and maintenance of geographic boundary data incorporated into the "District" theme of the King County Coordinated GIS (KCGIS) Program. The District data layer is utilized by many agencies within King County and it supports numerous County department business applications. KCEGIS staff support division and department business functions by providing digital map and CD production services, data creation, integration, maintenance and analysis, internet based services of available map products, and the polling place and RVC lookup applications. GIS is used in many aspects of the Division's business functions including but not limited to:
    - *Political Redistricting/ Voting District Maintenance* **-** GIS analysts within the division are responsible for the implementation and integration of data resulting from Federal, State and local redistricting plans *(RCW 29.76A and 29.76)* and annual voting district maintenance *(RCW 29A.76.010, RCW 29A.76.030, and RCW 29a.76.040,).* To support this program*,* GIS tools applications and spatial data are used by Elections staff to analyze plans and implement district changes.
    - *Jurisdiction Boundaries* **-** In King County, the Director of REALS performs the business function of the "County Auditor." Under State law, the "Auditor" is mandated to conduct primary, general and special elections for all political jurisdictions (including cities, towns, and minor taxing districts) within the County and to perform all duties required in order to carry out this function. *(RCW 29A.76.020).* In order to do this, the "Auditor" must maintain the latest accurate information describing the geographic boundaries of these jurisdictions, as well as the director, council, or commissioner districts within, and ensure that such information is kept current.
    - *Election Support* **-** Jurisdictions in King County can conduct as many as seven elections per year. GIS staff, data, and tools are used to support the business of conducting elections. Candidate filing, jurisdiction flagging, ballot layout and design, absentee ballots, voting equipment delivery, routes, troubleshooter zones, petition verification, production of the Local Voters Pamphlet, and polling place location and assignment *(RCW* 29A.52*)*, all rely on spatial data and applications maintained and supported by KCEGIS staff.
    - *Voter Registration* **-** The Elections office processes approximately 800,000 voter registration transactions per year. The State law *(RCW* 29A.08.125*)* requires the Auditor's office to maintain a database containing names, address, major political districts, minor taxing districts (jurisdictions) and precinct information for every voter. KCEGIS staff maintains spatial data and support the applications crucial to this business function.
    - *Document Recording* **-** The King County Recorder's Office (Records) processes and records documents related to real estate transactions and collects excise tax and recording fees *(RCW 36.22.010).* The recording procedure relies on accurate up to date city jurisdiction information to process these transactions. KCEGIS data and staff provide support to this business application. (*At the time of submittal of this report, details of the future support model to provide GIS data and support services to the King County Recorder, & Licensing & Animal Services, have yet to be finalized. When available, this information will be added as an addendum.)*
- *Public Information* **–** GIS maps, data and applications are used to aid in the delivery of public information. District information is depicted using GIS for all the division map series products available hard copy or via the Internet. Polling place and Regional Vote Center data is disseminated to the public via an internet application or over the telephone via an interactive voice response system. In 2008 the division will add district themed map sets to the iMAP application.

4.5.2 Planned Project Activity and New Projects

Name	**DIMS (the current election management system) Operation and Maintenance**
Description	Elections GIS DIMS specific support.
Interdependencies	Working with Premier Election Solutions (PES) on optimizing database.
Status	In Progress
Target	Q2 2008
Activity	▪ Complete yearly precinct alterations for 2008. ▪ Perform minor taxing district boundary maintenance. ▪ Update voter registration database with new addresses. ▪ Develop editing processes and procedures.

Name	**Elections Map Production**
Description	Elections GIS updated map series.
Interdependencies	Work with KCE web application developer.
Status	In Progress
Target	2008
Activity	▪ Update Metropolitan King County Council District maps. ▪ Update Legislative District maps. ▪ Update City maps. ▪ Develop editing processes and procedures.

4.5.3 Data Enhancement and Development

Name	**Precinct Boundary Adjustments for Vote by Mail Transition**
Description	Determine new precinct boundaries for transitioning to Vote by Mail.
Interdependencies	Washington State Office of the Secretary of State (SOS) Law and County Code.
Status	In Progress
Target	2008
Activity	▪ Coordinate with King County Council and Council staff to update the County Code related to the annual alteration of voting precincts.

	▪ Determine precinct splits and, or consolidations. ▪ Update DIMS with new precincts as defined by SOS and County Code.

4.5.4 Application Enhancement and Development

Name	**COGO (Coordinate Geometry) for REET and Minor Taxing Districts**
Description	Utilize COGO in ArcInfo 9.2 to accurately re-create the legal description for major and minor taxing districts.
Interdependencies	Training with COGO tool and accuracy of other King County agency data.
Status	On hold.
Target	N/A
Activity	▪ Exploring ideas and suggestions from other county agencies.

4.5.5 Hardware, Software, Database, and Licensing Changes

- Possible addition of ArcGIS ArcView licenses for 2008. As of this submission, it is unclear how many licenses will be needed. This proposal will be analyzed as part of the on-going discussion regarding the future REALS Division GIS service delivery model.
- The King County REALS Division strongly supports the consolidation of GIS licensing with the KCGIS enterprise.

4.5.6 Staffing Changes

- Current staffing plans for 2008 include reclassifying one incumbent GIS Specialist-Journey to GIS Specialist-Senior, and reclassifying one incumbent GIS Specialist-Entry to GIS Specialist-Journey.

4.5.7 Other Changes

- No other changes are anticipated for 2008

4.6 DES – Facilities Management Division

4.6.1 Agency GIS Overview, Priorities, and Goals

- Agency Mission – The mission of the Department of Executive Services, Facilities Management Division (FMD) is "to manage and operate the County's capital assets by developing and maintaining cost conscious, sustainable, quality facilities and environments". FMD builds, manages, and maintains the land, buildings, and other structures owned, leased, and operated by King County general government agencies.
- Although FMD has made increasing use of GIS resources in 2007, it is still in the early stages of identifying uses and adopting the technology. Currently, GIS services are obtained periodically from the KCGIS Center Client Services group. In the future, FMD hopes to develop and deploy GIS tools and capabilities internally to help provide effective, economical, and environmentally sound services.
- Facilities Management Division functions for which future GIS support is planned or envisioned include:
    - Managing County's Real Estate Portfolio
    - Long-term Space Planning
    - Lease Management
    - Parks and General Government CIP Planning and Development
    - Permit Management
- In 2007 FMD continued use of the services of the KCGIS Center Client Services to make refinements to the Real Estate Portfolio Management System (REPMS) to enable that system to further improve management of the countywide real assets portfolio. The REPMS is a database application, designed and developed by Client Services staff in conjunction with professional real estate staff in several departments, that enables users to store and access data related to County real property assets. The system integrates with existing KCGIS tools and supports real estate acquisitions, surplus sales, leasing, and permit tracking. FMD continues to expect that the REPMS will over time provide the impetus for accelerated use of enterprise GIS resources by FMD and will result in additional GIS data layers maintained by the KCGIS Center.
- There is no organizational unit responsible for GIS functions within FMD. The FMD representative to the KCGIS Technical Committee provides some internal coordination. FMD staff members have taken GIS training during 2007 in the use of recently acquired ArcView software updates, but agency staff GIS skills continue to be concentrated in a very small number of individuals. At present, therefore, GIS resource use is predominantly limited to services purchased from the KCGIS Center Client Services group, primarily in the form of mapping. The continuing long-term goal for FMD is for agency staff to become further trained and more proficient in using GIS data and software on their own.
- FMD has a Division Director who is knowledgeable about GIS and who has past experience with GIS business implementation. This is a key strength vis-a-vis the division's GIS program.
- Although access to the KCGIS Data Warehouse via the County WAN is adequate, in the FMD's Real Estate Services Section LAN staff support is external/contractual and minimal (about 0.5 FTE for 25+ staff). There is one GIS-dedicated PC in RES; in 2007 software at this workstation was upgraded and it is now running the latest ArcView.
- FMD also has a high quality color office printer available in the Real Estate Services Section, which is capable of producing color 11x17 prints. The Division also has large scale plotter capabilities in the Capital Planning Section, due to the need there for architectural renderings and other CAD drawings. However, there is no GIS data server in FMD.

- Although several staff in Real Estate Services were trained in 2007 to use ArcView on the RES workstation, FMD as a whole has relatively few staff knowledgeable in the use of GIS tools and resources. If this situation can be improved, FMD may consider expanded licensing in the future.

4.6.2 Planned Project Activity and New Projects

Name	**Real Estate Portfolio Management System (REPMS)**
Description	SQL Server database supporting real property asset acquisition, leasing, disposition, easements, and permit tracking. Data input and maintenance module is PC based desktop application. Reports Module is web-based, with standard reports and ad-hoc query capabilities.
Interdependencies	Continued availability of KCGIS Center Client Services staff for occasional system maintenance, as well as development of specialized reports.
Status	System implemented, small system enhancements made, and specialized reports developed in 2007. Some additional custom report development likely in 2008 as system becomes more widely used. Project Close Out report for OIRM will likely be done in early 2008.
Target	Complete custom reports development as required during 2008.
Activity	▪ REPMS is expected to result in new data layers for the GIS data warehouse as use continues and becomes more widespread across participating agencies. ▪ Approximately $30,000 remains in the REPMS project budget. RES will consider the possibility of an enhancement to the system that provides for imaging existing hard copy files for real estate acquisitions and leases, subject to OIRM/PRB review and approval. ▪ Ongoing Operations and Maintenance costs of the system will likely be covered by the RES operating budget for KCGIS Client Services suppport.

4.6.3 Data Enhancement and Development

Name	**REPMS Related Data Development**
Description	It is possible that property characteristics recorded and stored in the REPMS may result in additional data layers, since REPMS will hold data on all county property interests, including easements, leases, and permits. No fixed plans or timetable has been established for these additional data layers, however they will likely come about as REPMS use becomes more widespread.
Interdependencies	None.
Status	Not started.
Target	2008
Activity	▪ Identify data layers for possible development based on use of REPMS database.

4.6.4 Application Enhancement and Development

Name	**REPMS Reports**
Description	Additional REPMS reports development is a likely application enhancement in 2008, but the nature of those reports is not known at this time. It is expected that system users will voice desires for report enhancements as the system receives additional and more widespread use across agencies.
Interdependencies	None.
Status	Not started
Target	2008
Activity	▪ Work with REPMS users to determine reporting needs. ▪ Contract with KCGIS Center for development of new reports.

4.6.5 Hardware, Software, Database, and Licensing Changes

- None anticipated.

4.6.6 Staffing Changes

- None anticipated.

4.6.7 Other Changes

- FMD anticipates that the Leasing and Surplusing unit within Real Estate Services may make use of KCGIS Client Services staff in 2008 to further define opportunities among surplus, or potential surplus, properties for the development of affordable housing.

4.7 DNRP – Wastewater Treatment Division

4.7.1 Agency GIS Overview, Priorities, and Goals

- WTD Background:
  - King County protects water quality and prevents water pollution by providing wastewater treatment to 17 cities and 18 local sewer utilities. The county's Wastewater Treatment Division (WTD) serves about 1.4 million people, including most urban areas of King County and parts of south Snohomish County and northeast Pierce County.
  - The mission of WTD is "to protect public health and enhance the environment by treating and reclaiming water, recycling solids and generating energy."
  - The WTD GIS team assists in this mandate by developing, interpreting, displaying, maintaining and providing access to spatially oriented data. This service enhances and supports WTD project planning, design, and operation strategies.
- WTD GIS Team Organization:
  - The WTD GIS Team consists of four GIS Specialists matrixed to WTD from the King County GIS Center. This arrangement allows for the administrative management of the analysts coming from the KCGIS Center Manager while the day-to-day work-load management comes from the lead for the Technical Resources Group within WTD.
  - The four specialists share responsibility for project support, cartography, and data maintenance with each specialist specializing in different areas including database administration and application development. One of the four specialists will spend 0.3 of an FTE on WTD projects in 2008.
- The WTD GIS team provides the following services:
  - Cartography: for presentations, reports, and analyses.
  - Analysis: to answer questions regarding the wastewater system infrastructure, capacity and future needs, property, political boundaries, and population changes.
  - Data development and maintenance
  - Database and geodatabase development and maintenance
  - Programming/Application Development: applications for individual, division, and county-wide use
  - User Support
- WTD GIS Program Challenges.
  - A couple of the major capital projects from passed years now require minimal GIS support. GIS work available for new WTD projects including a general database administrator role for the division, programming needs, web applications, open source access, and other GIS related projects not yet identified will compensate for this loss of work.
  - WTD GIS team manages data sets that are relied on for making decisions within the Wastewater Treatment Division. Many other data sets exist or are being created that need administration. The GIS Team's expertise and institutional knowledge places them in a position to assume a database management role in the near future.
  - Training in web and database development, cartography, and ArcGIS application development are prerequisites for the WTD GIS team in order for it to meet future goals.

- ESRI is no longer supporting ArcView 3.x. This is the GIS program that many WTD staff use to do basic GIS operations. These users will need training in ArcGIS 9.x or access to an ArcReader document depending on their needs.

- WTD GIS Cross Agency Issues – The WTD GIS team will:
  - Continue to require support from Enterprise GIS section of the KCGIS Center on IMS and WTD's Intranet Data Access Application.
  - Continue to work with the Parks and Recreation, Water and Land Resources and Solid Waste Divisions within the Department of Natural Resources. WTD, Parks, WLRD, and Solid Waste share data on their own server.
  - Continue to work with Public Health to obtain and share septic system location information.
  - Work with local sewer agencies to acquire sewer service data, water line data (when appropriate), and storm line data (when appropriate). Collection of this data is currently on hold.

- WTD GIS Strategic Initiatives
  - Cartography – The WTD GIS Team will continue working to expand and improve their current skills in cartographic science and art through the combined use of GIS software, digital illustration, graphic design, and publication tools. It is the group's goal to decrease or eliminate reliance on outside graphic design firms when a map or graphic is needed by developing the cartography and graphic skills including concept development, data collection, cartographic design, and cartographic production.
  - Analysis – Several tools have been developed that allow the casual user to create basic maps and do powerful data queries with relatively little training. The software and data are accessible but neither is being used to its fullest potential. The WTD GIS Team will educate WTD managers about GIS and teach casual users the abilities that they already have but of which they might not be aware. Access to these tools and data, coupled with the knowledge of their existence and usage, will not only save time in the acquisition of project related data but will also provide information to the decision-making process that might otherwise be left out.
  - DBA Role – Numerous scattered data sets used by WTD are not being efficiently utilized in conjunction with other available data. These data are financial, asset management, engineering, inspection, maintenance, and monitoring related. WTD plans to develop a systematic approach to its data maintenance, organization, and development with a single point of administration and a central RDBMS through which all of the division's data can be accessed and leveraged against other data. Since they have the data management skills, the WTD GIS Team will assume the DBA role for this data. The DBA plan will be written this year.

- WTD GIS and KCGIS Relations
  - Much of the data created for the WTD projects mentioned is posted to a county-wide data warehouse. This data is also provided on data disks which are sold to anyone wishing to use the data for their own needs. To adequately support a breadth of application needs the WTD GIS team create data to meet high standards. In this way they not only support WTD, but also the county as a whole. The matrix management approach applied to the WTD analysts is effective in that the analysts support WTD's mission while still supporting county-wide GIS efforts through cross-departmental support, data development, and by sitting on workgroups.

4.7.2 Planned Project Activity and New Projects

Name	**Onelines Atlas**
Description	Update of atlas showing parcels, roads, and sewer conveyance in the WTD service area. King County WTD pipe and facility attributes is the focus. Current Onelines are on the intranet and completion of this atlas update will result in an update of the Onelines intranet site as a maintenance issue.
Interdependencies	None.
Status	50% complete.
Target	June 2008
Activity	▪ Five year update of atlas includes extensive cartographic work and atlas production in addition to data QA/QC and stakeholder evaluations.

Name	**System Map Book**
Description	A hard copy map book of the King County sewer system, local sewer lines, and local jurisdictions. Relationship to other agencies conveyance and overall hydrology is the focus.
Interdependencies	None.
Status	Not started
Target	December 2008
Activity	▪ Extensive cartographic work and atlas production in addition to data QA/QC and stakeholder evaluations.

Name	**Non-GIS Database Plan**
Description	Develop a plan to better manage all non-spatial, and currently unmanaged, WTD data into a framework that will allow better maintenance and more efficient use. This is WTD GIS planned DBA role.
Interdependencies	None.
Status	Not started
Target	August 2008
Activity	▪ Research data that fits description above. ▪ Develop plan.

Name	**Effluent Transfer System (ETS) Book**
Description	Update ETS Book with GPS manhole locations and updated air photos.
Interdependencies	None.
Status	75% complete.
Target	March 2008
Activity	▪ Add data points to force main in FIRS. ▪ Project profile of force main for book.

4.7.3 Data Enhancement and Development

Name	**Site Plan Development**
Description	Create a data layer showing the wastewater treatment plant sites including building foot prints. This will assist the treatment plant staff in maintenance, disaster planning and other activities.
Interdependencies	None.
Status	10% complete.
Target	December 2008
Activity	▪ Research orthophotos and parcel data layer to determine best data source. ▪ Extract data. ▪ Create site plan data layer.

Name	**Waterlines Feature Class**
Description	Create a geodatabase of water supply lines in the WTD service area. Currently, King County does not have water supply information. This data layer will assist in determining where water is available in case residents lose access to their primary water source during construction activities.
Interdependencies	County water districts.
Status	25% complete
Target	June 2008
Activity	▪ Contact local water service utilities. ▪ Collect water supply line data layers.

	▪ Compile data into GIS format. ▪ Create GDB.

Name	**Storm Water Feature Class**
Description	A geodatabase of all storm water collection systems within the WTD Service Area. Currently King County does not have a comprehensive storm water collection dataset. This information with assist WTD staff in planning, upgrades and maintenance of King County's system.
Interdependencies	Local storm water agencies.
Status	25% complete.
Target	June 2008
Activity	▪ Collect data. ▪ Compile data. ▪ Create GDB.

Name	**Septic Parcel Feature Class**
Description	Develop a feature class that shows the parcels within the WTD Service Area that are most likely served by a septic system.
Interdependencies	Department of Public Health
Status	50% complete.
Target	June 2008
Activity	▪ Collect three databases from Public Health (Septic System Permits, Septic System Failures, Septic System Incidents). ▪ Compile data. ▪ Create feature class.

Name	**Geolocate WTD Facilities**
Description	Acquire GPS readings for all manholes, pump stations, regulator stations and other facilities within the WTD sewer system. This will enable the WTD GIS team to create a positionally accurate dataset to assist WTD staff in planning and maintenance of King County sewers.
Interdependencies	None.

Status	20% complete
Target	December 2008
Activity	▪ GPS facilities. ▪ Conflate FIRS data to GPS information.

Name	**Water Reuse Layer Data Development**
Description	Develop a feature class that identifies potential end users of reclaimed water. This data layer is not available for public use.
Interdependencies	Local agencies interested in using reclaimed water.
Status	90% complete – ongoing.
Target	December 2008
Activity	▪ Continue to update layer as needed. ▪ Identify end users of data.

Name	**Combined Sewer Improvement (CSI) Database**
Description	CSI information and updates stored in a database; eventually accessed through the web.
Interdependencies	None.
Status	50% complete.
Target	December 2008
Activity	▪ Collect all CSI data into database. ▪ Launch application.

4.7.4 Application Enhancement and Development

Name	**As Built Link**
Description	As Built drawings show King County sewers and facilities as they are built. Scanned drawings are available via the intranet, but they are difficult to search through. This link would allow the user to click on a pipe or facility located on an online map and have the As Built drawing(s) come up.
Interdependencies	None.

Status	50% complete
Target	December 2008
Activity	▪ Extract list of drawings from scanned drawings database. ▪ Create GDB with all appropriate drawings. ▪ Add spatial extents from all drawings.

Name	**Intranet Data Access Application**
Description	Develop an intranet site for WTD employees to access varied and disparate data sets in formats that will allow them to more efficiently fulfill their work goals. Data includes spatial and tabular, document and visual media, county and external. Data anticipated to be included: ▪ Flow/Flow monitors ▪ Rain/Rain gauges ▪ Tidal ▪ Documents ▪ AsBuilts ▪ Photos ▪ GIS ▪ Environmental data ▪ Planned and current Capital and Asset Management Projects
Interdependencies	None.
Status	40% complete.
Target	Initial deliverable of CSO site anticipated to deploy at the end of November 2007. Subsequent modules planned approximately one every six months.
Activity	▪ Data research – 50% complete. ▪ Currently finalizing CSO module – 90% complete. ▪ Flow management and CSI/AM/CIP pages in design – 5% complete.

Name	**Flow Monitor Data Management Application**
Description	Develop an intranet site for WTD employees responsible for operation and maintenance of flow monitors to manage GIS and tracking data related to flow monitors.
Interdependencies	None.

Status	20% complete.
Target	Design for the application is nearly complete and anticipated deployment is for the first quarter of 2008.
Activity	▪ Design – 90% complete. ▪ Development.

Name	**Rain Gauge Data Management Application**
Description	Develop an intranet site for WTD/WLRD employees responsible for operation and maintenance of rain gauges and rain gauge data to manage GIS and tracking data related to rain gauges.
Interdependencies	Hydrogauge.
Status	Not started.
Target	TBD
Activity	▪ Needs assessment. ▪ Design. ▪ Development.

Name	**WTD Open Source Project**
Description	Implement web mapping technology using free open source software (FOSS) GIS product. To develop working WTD intranet web viewer showing WTD data (sewer line, manholes, flow meters/monitors etc.) for in-house staff.
Interdependencies	None.
Status	10% complete.
Target	Proof-of-concept in spring 2008 and demo project by end of 2008.
Activity	▪ Develop proof-of-concept. ▪ Develop demo. ▪ Launch application.

4.7.5 Hardware, Software, Database, and Licensing Changes

- A spare WTD desktop computer running Windows XP has been loaded with Linux and two open source GIS applications, Map Server and Q GIS. This machine is used to develop WTD's Open Source initiative.

4.7.6 Staffing Changes

- The Journey level GIS Specialist position will split her time equally between WTD and the KCGIS Center. Currently she is working 24 hours a week, 60% of the standard full time workload. So, 30% of the FTE will be dedicated to WTD projects and the other 30% will be dedicated to KCGIS Center projects.
- WTD will employ one intern during the summer of 2008 to aid in AsBuilt data development, using a GPS to geolocate manholes, and assist with various cartographic and analysis projects. This intern will work 15 hours a week.

4.7.7 Other Changes

- None anticipated.

4.8 DNRP – Water and Land Resources Division

4.8.1 Agency GIS Overview, Priorities, and Goals

- **WLR Mission:**
  - Serve as stewards of safe and clean water resources, healthy habitats, and functioning landscapes throughout King County.
  - Protect and enhance quality of life, public health, and public safety by managing our water and land "infrastructure" (farms, forests, shorelines and marine waters, rivers, lakes, streams, WRIAs and associated watersheds, drainage, groundwater systems throughout the region).
  - Serve as technical experts on King County's regional environmental quality for defining and implementing strategies for resource protection.
- **WLR GIS Program Organization:**

  WLR GIS program consists of four GIS analysts with a unique set up under the Department of Natural Resources and Parks (DNRP) GIS matrix-management structure. These analysts are in the same work unit as DNRP/WLR GIS, Visual Communication & Web, working jointly with other technical experts to deliver services and products for WLR work programs, the DNRP Director's Office, and other department/division special programs. These four staff receive project assignments from DNRP/WLR GIS, Visual Communication & Web unit manager based on areas of expertise and project workloads.
- **WLR GIS Services**

  GIS provides data, tools and analytical services to assist in policy analysis, planning and monitoring of the natural environment. Multiple mandates include sustaining healthy watersheds, protecting public health, water and air quality, preserving open space, working farms and forests, ensuring adequate water for people and fish, and managing public drainage systems and protecting/restoring habitats. All data sets that are created and maintained by the following programs are available on KCGIS Spatial Data Warehouse (PLIBRARY), and/or the DNRP Data Warehouse (DNRPLIB). Specific business functions include:
  - ***Regional Services*** – GIS services for programs including WRIA/watershed support, groundwater management, and hazardous waste. GIS data and analysis are also used to predict and monitor flood hazard zones and provide basin-wide regional analysis.
  - ***Science, Monitoring and Data Management*** – Water quality, hydrologic assessment and analysis. Coordination with various data management and field activities to ensure efficient access to all relevant spatial data.
  - ***Office of Rural and Resource Programs*** – Data development, analysis, and mapping and application development for programs including agriculture, forestry, resource protection incentives, noxious weeds mitigation, natural lands management, and basin and lakes stewardship programs.
  - ***Stormwater Services*** – GIS supports service delivery analysis, drainage investigation, and inspection services. Regulation, compliance, and NPDES permit compliance are also supported.
  - ***Capital Projects and Open Space Acquisitions*** – GIS is used to depict and analyze proposed acquisitions, and provide ecological and surface water engineering services.
  - ***DNRP Director's Office*** – GIS is used for analysis of some regional policies, such as Open Space, Forest, Water, Energy and Air Quality/Climate change.
  - ***WLR Division Director's Office*** – GIS is used for analysis of policy and funding strategies work programs.

4.8.2 Planned Project Activity and New Projects

Name	**ArcIMS Developers Workgroup**
Description	The ongoing effort to maintain and improve *iMAP*, King County's ArcIMS Internet application, and other related ArcIMS applications. WLR Division maintains Groundwater Program, Hydrographic Information, Noxious Weed Location, Stormwater, SMP, and WRIA 9 Habitat Projects map sets on the public site and Greenprint map set on the internal site. The other ArcIMS applications maintained by WLR are Salmon Watcher, Groundwater, SMP and Snoqualmie Riparian Photo Viewer applications on the public site and PALS application on internal site.
Interdependencies	The KCGIS Center is leading this effort.
Status	In progress.
Target	Ongoing
Activity	▪ Participate in the workgroup to set policies and best practices, as well as to share development ideas and expertise. ▪ Develop custom programming for the general *iMAP* interface as assigned by the workgroup. ▪ Assist in conducting usability studies or focus groups.

4.8.3 Data Enhancement and Development

Name	**King County Land Cover**
Description	Classify Landsat or similar satellite imagery for land cover, years 1996, 2002 and 2004.
Interdependencies	The KCGIS Center will acquire and warehouse data.
Status	Planned.
Target	2008, repeat at intervals to be defined.
Activity	▪ Preprocess imagery as required. ▪ Define land cover classification schema in consultation with DNRP/WLRD and other interested county staff. ▪ Apply land cover classification schema. ▪ Accuracy assessment.

Name	**Phase II WTRCRS – Linear Measure**
Description	Phase I of the Hydrography enhancement project resulted in significantly updated WTRCRS and WTRBDY geometry and attributes, as well as a full suite of new

	topographically-based drainage basin layers (TOPO_CATCHMENT, TOPO_BASIN, TOPO_WATERSHED, TOPO_WRIA) and related layers. WTRCRS, WTRBDY and the TOPO drainage series primary line and polygon topology are now in maintenance mode. Phase II work will affect only WTRCRS, where key agency-specific business attributes will be added to the schema and linear measure topology will be created for streams within basins encompassed in whole or part by the King County boundary. New orthoimagery-based updates to WTRBDY will be used to influence adjustments to WTRCRS so that two datasets continue to work in concert.
Interdependencies	In coordination with KCGIS Center. See entry in section 4.1.3 of this document.
Status	Design work has been completed. Full dataset development will begin once pilot has been quality assessed and tested.
Target	Beginning of Q1 2008 for final review and testing of pilot areas. End of Q1 to middle of Q2 2008 for full database implementation. Q3 create WLRD measure-based business tables. Q4 begin adding measure-based business tables for other agencies.
Activity	▪ Complete pilot area and review. Use existing measure-based business tables to test routing scheme. ▪ Develop and document, as required, standardized editing tools and back end applications to assist and automate linear measure updates, including enhanced quality control routines. ▪ Review agency-specific attribute additions on case-by-case basis. Establish quality control requirements. ▪ Update metadata for enhanced schema and functionality of WTRCRS.

4.8.4 Application Enhancement and Development

Name	**Groundwater Data Search**
Description	Develop additional search pages and functionality in this application to allow users to more fully query the Groundwater Protection Program Database.
Interdependencies	May require additional development or modification of the existing Groundwater Protection Program Database.
Status	Phase II work planned in 2008.
Target	2008
Activity	▪ Add new water level query page. ▪ Add new water quality query page. ▪ Enable groups of groundwater source selections from *iMAP* to be sent and processed by the application to return a summary table of available data. ▪ Explore the possibility of a dedicated *iMAP* tool to connect to the existing application.

	▪ Update database, resulting GIS layers periodically.

Name	**WRIA 9 Projects**
Description	Improve the method to locate projects in the GIS data layer that are the subject of this *iMAP* map set. Currently projects are located by using PINs, but this is unsatisfactory for many stream related projects. Switch to using coordinate locations as captured either through GPS or *iMAP*.
Interdependencies	Will require the development of a new routine in Python as part of the *PostRep* group of scripts which have not yet been completed.
Status	Planned work for 2008.
Target	2008
Activity	▪ Develop Python script to connect to a database table and create a GIS layer using coordinate data in the database table. ▪ Generalize the specific script developed for this particular instance to be functional within the *PostRep* routines for particular types of user selected tables.

Name	**Mitigation Reserves**
Description	Create a new application that will assist users in finding receiving sites that meet their sending site characteristics. This application will assist in tracking and matching sites from DDES that have off-site mitigation needs with ecological sites (natural lands) that need restoration work done.
Interdependencies	Requires management approval of methodology.
Status	In progress.
Target	Completion 2008
Activity	▪ Develop listing of sending and receiving sites and create GIS layer. ▪ Develop user interface to assist in selecting appropriate sites. ▪ Develop web application with integrated *iMAP* mapping functionality. ▪ Develop and design database for tracking sites. ▪ Develop routines/models for periodic GIS data updates.

Name	**Parcel Alert LookUp System (PALS) Application**
Description	Deploy PALS application that will allow County employees to identify potential safety issues (alerts) at specific parcels based on encounters with or reported concerns about residents, dogs, weapons/firearms, hazardous conditions, etc.

Interdependencies	The application is in testing phase and will need some enhancements before deployment.
Status	In progress.
Target	Completion 2008
Activity	▪ Improve functionality based on user feedback. ▪ Deploy application.

4.8.5 Hardware, Software, Database, and Licensing Changes

- None planned.

4.8.6 Staffing Changes

- None planned.

4.8.7 Other Changes

- None planned.

4.9 DNRP – Parks and Recreation Division

4.9.1 Agency GIS Overview, Priorities, and Goals

- The mission of the Parks and Recreation Division is to operate and maintain the parks, trails, facilities, and programs which comprise the King County Park System. This encompasses four primary business functions: facility and site maintenance, recreation and event services, program development and land management, and collaborative partnerships. Facility and site maintenance includes maintaining a safe and inviting parks environment, managing open space, and preserving natural areas. Recreation and event services involves providing primary recreation services for residents in unincorporated areas of King County, as well as providing a year-round facility for hosting entertainment and educational events. Program development and land management takes in long-term planning for parks, open space, natural areas, and trails; development and coordination of the annual Capital Improvement Program and the six-year Capital Improvement Program; and property management oversight. Collaborative partnerships entails planning and implementing new recreational and educational programs and amenities in partnership with other public agencies and corporate sponsors.
- The Parks and Recreation Division is comprised of four sections: the Finance Section, the Business Planning and Implementation Section, the Parks Resource Section, and the Regional Parks, Pools and Recreation Section. GIS support is provided to all of these units, as well as to the Division Director's Office, by an allocation of 1.25 FTE. Work assignments are shared among three professional GIS analysts, who are part of the group of GIS analysts providing matrixed support to all DNRP divisions. The Parks GIS analysts are also affiliated with the KCGIS Center Client Services staff and Enterprise Services staff, which enables access to their specialized services and expertise when needed for Division projects. The Parks GIS analysts are supervised by the Parks and Recreation Division GIS Program Manager.
- The Parks and Recreation GIS Program supports the Division's managers, staff, and programs with a full range of products and services. These include data development and maintenance, data interpretation and analysis, map design and production, application development and maintenance, web-based mapping and information services, end-user training, and project consulting. The majority of products and services are provided on request to managers and staff within the Division's administrative offices in Seattle. Requests are also handled to support the needs of managers and staff working in outlying administrative offices or at individual parks, such as Marymoor Park and Cougar Mountain Regional Wildland Park. These include maps and reports used for a variety of planning, management, and maintenance purposes.
- The Parks GIS program conducts its work in the context of two key cross-agency dependencies. The first of these concerns data maintenance. Although the products and services which this program provides often involve numerous data layers, Parks GIS is itself the steward of only a few of these. The accuracy and reliability of its products and services therefore depend upon consistent, timely maintenance of data layers by other County GIS programs. The second key dependency is that of access to the specialized skills and expertise of the KCGIS Center Client Services staff and Enterprise Services staff. Whenever the products and services of Parks GIS necessitate the use of advanced tools and techniques, it is essential for the program's GIS analysts to be able to consult with the staff of these two groups. Both Client Services and Enterprise Services are open, approachable, and very supportive of the needs of Parks GIS. The dependency in this case is one of availability of specific staff at specific times, due to the heavy demands which are placed upon the staff of both groups.
- The mission of the Parks and Recreation Division is relatively specialized compared to that of other County departments and agencies. As a result, the Parks GIS Program has a somewhat narrow focus and a limited role in the overall KCGIS enterprise. There is a moderate amount of interaction with the other DNRP divisions, particularly Water and Land Resources, but relatively little involvement with GIS programs in other departments. Parks GIS maintains a small number of enterprise data layers for which it has responsibility and actively participates in the work of the

DNRP Matrixed Services Unit. It also has a representative on the KCGIS Technical Committee and is actively involved in the initiatives and operations of that group.

4.9.2 Planned Project Activity and New Projects

- None planned.

4.9.3 Data Enhancement and Development

Name	**MASTRAIL – Master Trails Database**
Description	Development and maintenance of a master trails database, to include all known current and proposed trails within King County. Trails data maintained by the Parks and Recreation Division are supplemented with data acquired from municipalities, state and federal agencies, and other public and private organizations which maintain recreational trails. This supports the Division's planning needs by helping to ensure that proposals for new trails and improvements to existing trails are planned with as much knowledge as possible about the overall network of trails within the County.
Interdependencies	Availability of suitable trails data from non-King County jurisdictions and agencies; Reliable operation and availability of the KCGIS Spatial Data Warehouse, the DNRP GIS data server, and ArcGIS 9.x software.
Status	Acquisition, assessment, and integration of existing trails data from non-King County jurisdictions and agencies are in progress
Target	2008 – End of 2nd Quarter, for completion of the initial version of a comprehensive master trails database. Subsequent maintenance will be on an ongoing basis.
Activity	▪ Populate the database with all King County and non-King County trails data currently available and suitable for inclusion. ▪ Continue ongoing coordination with non-King County jurisdictions and agencies to obtain updated and expanded trails data whenever they become available. Integrate these data into the database when received.

Name	**PARKMAST - Master Parks Database**
Description	Development and maintenance of a master parks database, to include all known current and proposed parks within King County. Parks data maintained by the Parks and Recreation Division are supplemented with data acquired from municipalities, state and federal agencies, and other public and private organizations which maintain parks and associated recreational facilities. This database supports the Division's planning needs by helping to ensure that proposals for new parks and improvements to existing parks are planned with as much knowledge as possible about existing parks and recreational resources within the County.
Interdependencies	Availability of suitable park and recreational facility data from non-King County jurisdictions and agencies; Reliable operation and availability of the KCGIS Spatial Data Warehouse, the DNRP GIS data server, and ArcGIS 9.x software.
Status	Acquisition, assessment, and integration of existing park and recreational facility

	data from non-King County jurisdictions and agencies are in progress.
Target	2008 – End of 2nd Quarter, for completion of the initial version of a comprehensive master parks database. Subsequent maintenance will be on an ongoing basis.
Activity	▪ Populate the database with all King County and non-King County park and recreational facility data currently available and suitable for inclusion. ▪ Continue ongoing coordination with non-King County jurisdictions and agencies to obtain updated and expanded park and recreational facility data whenever they become available. Integrate these data into the database when received.

4.9.4 Application Enhancement and Development

Name	***ParkView* Application Replacement**
Description	Development of a new version of the *ParkView* application, to be compatible with the ArcGIS 9.2 environment. This application will employ the full range of capabilities and functionality in ArcGIS 9.2, to provide improved and expanded query, display, and mapping capabilities for managers and staff of both Parks and the Facilities Management Division (FMD) of DES. This project will be coordinated with similar application revision/replacement projects being carried out by KCGIS Center Enterprise Services staff.
Interdependencies	Reliable operation and availability of the KCGIS Spatial Data Warehouse and ArcGIS 9.2 software; Availability of design and development assistance from KCGIS Center Enterprise Services staff.
Status	Programming of the new version of *ParkView* is complete and testing is underway.
Target	2008 – End of 2nd Quarter
Activity	▪ Test the new version of *ParkView*, using all of the Division's geodatabases, as well as other enterprise data layers typically of interest to Parks and FMD users. ▪ Install the new version of *ParkView* on the appropriate Parks or KCGIS Center server and provide all necessary training and technical support to users.

Name	***Park Info* and *Park Locator* Application Replacement**
Description	Development of new versions of the web-based *Park Info* and *Park Locator* mapping and information retrieval applications, to be compatible with the ArcGIS 9.2 environment. These applications will employ the full range of capabilities and functionality in ArcGIS 9.2, to provide improved and expanded information query and mapping capabilities for Division managers and staff, as well as for the general public. This project will be coordinated with similar application revision/replacement projects being carried out by KCGIS Center Enterprise Services staff.
Interdependencies	Reliable operation and availability of the KCGIS Spatial Data Warehouse and ArcGIS 9.2 software; Availability of design and development assistance from KCGIS Center Enterprise Services staff.

Status	On hold, pending completion of the *ParkView* application replacement project.
Target	2008 – End of 3rd Quarter
Activity	▪ Identify application requirements for the new versions of *Park Info* and *Park Locator*. ▪ Write the new versions of *Park Info* and *Park Locator*, addressing all identified application requirements. ▪ Test each of the new applications using all of the Division's geodatabases, as well as other enterprise data layers typically of interest to Parks managers and staff and to the general public. ▪ Install the new applications on the appropriate web server and provide all necessary training and technical support to users.

Name	**ArcGIS 9.2 Production Mapping Application**
Description	Development of a new mapping application within the ArcGIS 9.2 environment to replace existing AMLs used for generating standard and custom map products. This will enable quick, efficient production of the maps which are most often requested by staff from Parks and other county agencies, as well as quicker, more efficient design and production of custom maps.
Interdependencies	Reliable operation and availability of ArcGIS 9.2 and associated application development software.
Status	On hold, pending completion of higher-priority application replacement projects.
Target	2008 – End of 4th Quarter
Activity	▪ Identify all existing and anticipated standard and custom maps which will be generated using the new mapping application. ▪ Develop new mapping application, providing improved mapping capabilities and user flexibility, as compared to the existing AMLs. ▪ Test new application to ensure consistent, reliable operation. ▪ Install new application on the appropriate Parks or KCGIS Center server and remove all of the obsolete AMLs from all locations in which they were active. ▪ Train users on the new mapping application. Provide follow-on support and problem resolution as necessary.

4.9.5 Hardware, Software, Database, and Licensing Changes

- None planned.

4.9.6 Staffing Changes

- None planned.

4.9.7 Other Changes

- None planned.

4.10 DNRP – Solid Waste Division

4.10.1 Agency GIS Overview, Priorities, and Goals

- The mission of the Solid Waste Division is to provide transfer and disposal services for solid waste materials in King County, using innovative waste reduction and recycling services and programs to reduce the overall amount of material that must be managed. The Division serves residential and non-residential customers, as well as commercial disposal services. Solid Waste maintains nine closed landfills and the Cedar Hills Regional Landfill in Maple Valley, which is the only operational landfill within the County. The Division also operates eight geographically dispersed transfer stations and two rural drop boxes. The primary goal of these activities is to conserve natural and renewable resources by providing customers with readily available services and by promoting public awareness of conservation, recycling, and the benefits of participation in the Division's programs.
- The Solid Waste Division is comprised of five operational units: the Engineering Services Section, the Finance and Administration Section, the Landfill/Shop Operations Section, the Recycling and Environmental Services Section, and the Transfer/Transport Operations Section. GIS support is provided to all of these units, as well as to the Division Director's Office, by an allocation of 1.0 FTE. Work assignments are shared among two professional GIS analysts, who are part of the group of GIS analysts providing matrixed support to all DNRP divisions. The Solid Waste GIS analysts are also affiliated with the KCGIS Center Client Services staff and Enterprise Services staff, which enables access to their specialized services and expertise when needed for Division projects. The Solid Waste GIS analysts are supervised by the Solid Waste Division GIS Program Manager.
- The Solid Waste GIS Program supports the Division's managers, staff, and programs with a full range of products and services. These include data development and maintenance, data interpretation and analysis, map design and production, application development and maintenance, web-based mapping and information services, end-user training, and project consulting. The majority of products and services are provided on request to managers and staff of the Division's administrative offices in Seattle. Requests are also handled to support the needs of managers and staff working at outlying Division facilities, including the eight transfer stations and the Cedar Hills Regional Landfill. These include maps and reports used for a variety of planning, management, and maintenance purposes.
- The primary strategic initiative for Solid Waste GIS during 2008 is continued outreach to the Division to ensure awareness of, and access to, GIS support for all staff and programs which can benefit from its use. This outreach effort is particularly focused on the managers and supervisors at the eight transfer stations and the Cedar Hills Regional Landfill, whose operational environment and project needs differ from those at the Division's administrative offices in Seattle.
- The Solid Waste GIS program conducts its work in the context of two key cross-agency dependencies. The first of these concerns data maintenance. Although the products and services which this program provides often involve numerous data layers, Solid Waste GIS is itself the steward of only a few of these. The accuracy and reliability of its products and services therefore depend upon consistent, timely maintenance of data layers by other County GIS programs. The second key dependency is that of access to the specialized skills and expertise of the KCGIS Center Client Services staff and Enterprise Services staff. Whenever the products and services of Solid Waste GIS necessitate the use of advanced tools and techniques, it is essential for the program's GIS analysts to be able to consult with the staff of these two groups. Both Client Services and Enterprise Services are open, approachable, and very supportive of the needs of Solid Waste GIS. The dependency in this case is one of availability of specific staff at specific times, due to the heavy demands which are placed upon the staff of both groups.
- The Solid Waste GIS Program is relatively small compared to those of other County departments and agencies and, accordingly, focuses primarily on meeting the needs of Division managers and

staff. As a result, it has a somewhat limited role in the overall KCGIS enterprise. Solid Waste GIS has a moderate amount of interaction with the other DNRP divisions, but relatively little involvement with GIS programs in other departments. Solid Waste GIS maintains a small number of enterprise data layers for which it has responsibility and actively participates in the work of the DNRP Matrixed Services Unit. It also has a representative on the KCGIS Technical Committee and is actively involved in the initiatives and operations of that group.

4.10.2 Planned Project Activity and New Projects

Name	**Cedar Hills Landfill Complaint Tracking and Mapping**
Description	A new application for recording, tracking, and processing odor, noise, vibration, and bird complaints in areas adjacent to the Cedar Hills Landfill. A spatially-referenced complaint database will be designed and tested, along with a set of new data entry screens to ensure consistent recording of complaints. A set of standard maps and reports will also be developed to display information by area, time period, and type of complaint. Additional project activities may include creating automated processes for custom map generation and for analysis of complaint data.
Interdependencies	Reliable operation and availability of the DNRP GIS data server and ArcGIS 9.x software.
Status	On hold, pending completion of higher-priority Division projects.
Target	2008 – End of 4th Quarter
Activity	▪ Complete definition of system requirements. ▪ Design, test, refine, and deploy standard complaint data entry screens. ▪ Design, test, refine, and populate complaint tracking database. ▪ Train operators on use of data entry screens and update procedures. ▪ Develop set of standard maps and reports for data display and analysis.

Name	**Illegal Dumping and Abandoned Vehicle Tracking, Mapping, and Analysis**
Description	Development of an automated system for entering and processing illegal dumping complaints and reports of abandoned vehicles in a spatially-referenced database. Planned work includes database design and development, creation of a standard data entry interface, and automated processes for map creation and data analysis.
Interdependencies	Reliable operation and availability of the DNRP GIS data server and ArcGIS 9.x software.
Status	On hold, pending assessment of existing system elements and determination of remaining work necessary to develop missing elements and integrate all of the pieces into a complete system.
Target	2008 – End of 3rd Quarter
Activity	▪ Complete assessment of existing system elements and determination of remaining development and integration work necessary to complete the system.

	Assess additional requirements related to locating and disposing of abandoned vehicles. ▪ Design, test, and implement database refinements. ▪ Design, test, refine, and populate abandoned vehicle database. ▪ Design, test, refine, and implement standard data entry interface. ▪ Complete needs assessment and definition of system requirements for automated map creation and data analysis applications. ▪ Design, test, refine, and deploy automated map creation and data analysis applications. ▪ Provide training as necessary to division staff.

Name	**New Transfer Station Siting Analysis and Mapping**
Description	Identification, analysis, and mapping of potential candidate sites for proposed new transfer stations in various areas of King County, based on search criteria established by division and project managers. This will be a new phase of work for a project which was active during 2003 and 2004 but which has since been on hold. The division's need for new and additional transfer station capacity continues to grow rapidly enough that renewed analysis of potential sites is expected to be necessary during 2008. As before, this process will be supported by site analysis and selection, as well as production of maps and reports for the sites chosen.
Interdependencies	Reliable operation and availability of the KCGIS Spatial Data Warehouse, the DNRP GIS data server, and ArcGIS 9.x software.
Status	On hold, pending direction to proceed from division management.
Target	2008 – End of 4th Quarter
Activity	▪ Conduct site analysis and selection, based on criteria established by division and project managers. ▪ Design and produce maps and reports illustrating and describing suitable candidate sites.

4.10.3 Data Enhancement and Development

Name	**Carrier Route Data Development and Maintenance**
Description	Completion of the spatial data layer for US Postal Service mail carrier routes, and transition to ongoing maintenance of this data layer. Once the entire area of King County has been initially populated with carrier route data, a process and schedule will be developed for ongoing maintenance, using monthly updates provided by the US Postal Service. The carrier route data layer will be linked to the KCGIS parcel layer, as well as to related parcel attribute data and address-point data. These linkages will enable address searches and compilation of mailing lists which focus on specific areas of the County. This will support the Division's need for targeted mass mailings of educational and outreach materials, as well as legally-required

	notifications to property owners.
Interdependencies	Availability of monthly updates of US Postal Service tabular carrier route data; Reliable operation and availability of the KCGIS Spatial Data Warehouse, the DNRP GIS data server, and ArcGIS 9.x software; Coordination with, and assistance from, KCGIS Center Client Services and Enterprise Services staff for completion of initial data development and establishment/testing of data linkages.
Status	In progress.
Target	2008 – End of 1st Quarter for completion of the initial version of the carrier route spatial data layer. Subsequent data maintenance will be on an ongoing basis.
Activity	▪ Process tabular carrier route data covering all remaining unfinished areas of the County to generate the initial version of the spatial data layer; Revise the design of the spatial data layer as necessary; Initiate ongoing maintenance of the spatial data layer on a to-be-determined update frequency. ▪ Establish all necessary links to the KCGIS parcel layer and to related parcel attribute data and address-point data; Test all data linkages to ensure consistent, reliable access and operation. ▪ Provide training and technical support as necessary to SWD GIS Analysts and other users of these data.

Name	**HAZUS – Related Data Acquisition, Analysis, and Mapping**
Description	Identification, acquisition, analysis, and mapping of HAZUS-related data layers for use in SWD disaster response planning. These data will be used to identify: 1) Areas of high, medium, and low risk for large volumes of debris generation from earthquakes, windstorms, and other major disasters; 2) Suitable sites for temporary disposition of disaster-generated debris; 3) Suitable sites for permanent disposition of disaster-generated debris; and 4) Availability of infrastructure (eg, roads and bridges) in adequate post-disaster condition to be usable for transporting large volumes of debris to disposition sites. Estimated volumes of debris to be expected in different types of areas resulting from various types of disasters will be calculated using HAZUS software from the Federal Emergency Management Agency.
Interdependencies	Availability of adequate, suitably-detailed data for: 1) Property, infrastructure, zoning, and related site search criteria; 2) Risk levels for damage and debris generation; 3) Structure type and density; and 4) Forest species and density; Applicability of HAZUS modeling software to King County's complex urban and rural geography and to the types of disasters most likely to occur in this area; Reliable operation and availability of the KCGIS Spatial Data Warehouse, the DNRP GIS data server, and ArcGIS 9.x software.
Status	In progress.
Target	2008 – End of 4th Quarter
Activity	▪ Complete research into the adequacy of available data for calculating debris volumes and the applicability of the HAZUS modeling software. ▪ Acquire all suitable available data for: 1) Risk levels for damage and debris

	generation; 2) Structure type and density; and 3) Forest species and density. ▪ Conduct initial modeling for areas of highest anticipated risk of high-volume debris generation. Evaluate validity of results. Determine whether to proceed with additional modeling runs. ▪ Conduct additional modeling as appropriate for all areas for which adequate suitable data have been acquired. ▪ Estimate debris volumes likely to be generated for all areas modeled. ▪ Establish capacity criteria for sites needed for temporary and permanent disposition of disaster-generated debris, using these volume estimates. ▪ Conduct site analysis and selection, based on these capacity criteria. Refine criteria and re-run site analysis and selection as necessary. ▪ Design and produce maps and reports illustrating and describing suitable candidate sites.

4.10.4 Application Enhancement and Development

Name	**ArcGIS 9.2 Web Mapping Application Development**
Description	Design, develop, and implement ArcGIS 9.2-based Web mapping applications to replace existing SWD Web mapping services for garage/yard sales, reusable material exchange sites, SWD-operated transfer stations, and the Waste-Free Holidays program.
Interdependencies	Reliable operation and availability of the KCGIS Spatial Data Warehouse, the DNRP GIS data server, and ArcGIS 9.2 software.
Status	On hold, pending determination of how existing SWD web mapping services will have to be revised to operate within the SWD web site under the requirements of the County's new Web Content Management System.
Target	2008 – End of 4th Quarter
Activity	▪ Review capabilities and limitations of the current Web mapping applications and develop a list of necessary and desirable improvements for each. ▪ Design and develop the suite of new mapping applications in the ArcGIS 9.2 environment, incorporating all possible improvements identified for each. ▪ Test, refine, and implement each of the new mapping applications. ▪ Provide training and technical support as necessary.

4.10.5 Hardware, Software, Database, and Licensing Changes

- None planned.

4.10.6 Staffing Changes

- None planned.

4.10.7 Other Changes

- None planned.

4.11 Department of Public Health

4.11.1 Agency GIS Overview, Priorities, and Goals

- The mission of the Department of Public Health – Seattle and King County is to achieve and sustain healthy people and healthy communities throughout King County by providing public health services which promote health and prevent disease. Public Health – Seattle and King County provides direct services and education to the residents of King County in order to prevent health problems from starting, spreading, or progressing. Public Health helps the entire community, protecting and promoting the health of all residents.
- Currently the Department of Public Health does not have coordinated GIS program, nor does it have any person with full-time GIS responsibilities. Several divisions within the Department are using GIS in support of their business needs and provide GIS services to a broader community. The absolute majority of GIS related activity is concentrated within three divisions: Environmental Health (EH), Epidemiology, Planning and Evaluation (EPE), and Emergency Medical Services (EMS). Overall, there are currently three employees who are using GIS on almost everyday basis (power users) and another several people who have ArcGIS or ArcView installed on their desktops. In the past few years several attempts were made to bring a broader awareness and recognition of the importance of GIS in Public Health.
- Listed below are the business functions within the department that use or plan to use GIS:
    - ***Environmental Health (EH)*** continues to use GIS software and continues to provide some GIS related service within EH and also the Public Health Department. EH has one power user who does much of the GIS related work. Also two staff are trained and using GIS software more than once a week, and there are several interns and a couple of staff who have been using GIS software for various projects. GIS related information is also used extensively by most staff through the KCGIS Center Intranet mapping sites (*iMAP* and *Parcel Viewer*). The division uses the KCGIS Spatial Data Warehouse to access geographic data.
    - Until recently, ***Epidemiology, Planning and Evaluation (EPE)*** has used GIS primarily for creating static thematic maps to display data on health events in King County and Washington State. EPE receives requests for these descriptive maps from other Public Health Department units that have no GIS capability of their own, and from the community, research and health organizations and the general public. EPE also produces a number of reports each year that include thematic maps on topics such as the distribution of childhood asthma hospitalization rates by ZIP code in King County. VistaPHw, a statistical package created by EPE staff now has the ability to produce thematic maps using SCG for county level data and King County Health Planning Area data. EPE also uses GIS to geocode health events for statistical analysis below the county level. One staff member is a GIS power user, and another is an occasional user. The division is using the KCGIS Spatial Data Warehouse to access geographic data.
    - ***Emergency Medical Services (EMS)*** is utilizing GIS capabilities to produce timely thematic maps for the customers (fire departments and paramedic providers) as well as to perform quality control, data analyses, planning and research. The requests for maps are generated by EMS staff, other units within Public Health, hospitals, research organizations and general public. Various annual and semi-annual reports with cartographic materials are published and distributed among all Seattle - King County fire departments, paramedic providers, County Council, and others. Currently one staff is a power GIS user. The division is using the KCGIS Spatial Data Warehouse to access geographic data.

4.11.2 Planned Project Activity and New Projects

Name	**EH – OnSite System AsBuild Image Connection**
Description	Provides for accessing AsBuild Images through *iMAP* interface.
Interdependencies	Envision data export. Layer creation, updates and maintenance. Connection to imaging software data system.
Status	Planning phase. List of parcels that currently have an AsBuild Image available is ready. Could provide this list to *iMAP* now to provide to the public.
Target	2008
Activity	▪ Submitted a plan for organizing and maintaining data. Plan is awaiting resources to implement. ▪ New version of permitting software (Envision) is scheduled for upgrade in May 2008 with unknown consequences for the AsBuild project.

Name	**EH – ArcPad Applications for Mobile GPS Units**
Description	Uses KCGIS shapefiles on mobile units to collect accurate EH GIS data in field.
Interdependencies	KCGIS Spatial Data Warehouse for shapefiles, ArcPad Application Builder for customization of mobile units (Internal to EH).
Status	Programming and testing phase has begun.
Target	Have first application working 1st Quarter 2008.
Activity	▪ Create, program and implement custom data collection application on Trimble Juno GPS units using ArcPad software for Tacoma Smelter Plume Sampling. ▪ Test application, and then repeat process for Site Hazard Assessment program.

Name	**EH – Small Water Systems**
Description	EH provides services to Group B water systems (small systems with 2 to 15 connections). EH has a database that keeps well locations, connected parcels, system status, testing results, etc. EH would like to share this data with other KC agencies.
Interdependencies	EH database Envision. KCGIS Spatial Data Warehouse (SDE and shapefiles libraries).
Status	Currently well locations are getting their GPS coordinates uploaded.
Target	Unknown.

Activity	▪ Data creation, collection and maintenance. ▪ Provide this information on *iMAP* and *Parcel Viewer*.

Name	**EH – Permitted Food Service Facility Locations Mapped**
Description	EH database (Envision) contains records of permitted food service facilities. Locations are not mapped.
Interdependencies	Internal EH process.
Status	As time allows locations to be updated by parcel number, latitude and longitude of either parcel centroid, or building centroid.
Target	Unknown.
Activity	▪ No current activity on this project. Further action will occur after the upgrade to the Envision scheduled for May 2008.

Name	**EPE – Spatial Analysis of Health Data**
Description	Perform spatial analysis, looking for clusters of health events.
Interdependencies	Completing projects and resources; receipt of timely health data; education curve to clustering software; unit redesign and priorities may shift.
Status	Planning phase.
Target	2008
Activity	▪ Planning.

Name	**EMS – Emergency Medical Services Information and Mapping System (EMSIMS) Upgrade**
Description	EMSIMS allows evaluation and planning of existing and potential paramedic unit locations.
Interdependencies	Internal EMS process. Potentially TNET.
Status	Planning phase.
Target	2008
Activity	▪ Evaluation of existing EMSIMS version. ▪ Updating existing road network within the model to reflect new changes.

4.11.3 Data Enhancement and Development

- None planned.

4.11.4 Application Enhancement and Development

- None planned.

4.11.5 Hardware, Software, Database, and Licensing Changes

- None planned.

4.11.6 Staffing Changes

- None planned.

4.11.7 Other Changes

- None planned.

4.12 DOT – Road Services Division

4.12.1 Agency GIS Overview, Priorities, and Goals

- The Road Services Division (RSD) operates the County public road system. Functions include designing, building, and maintaining publicly owned roads, bridges and pathways in unincorporated areas of King County and numerous administrative tasks necessary to support these core businesses. The Division strives to make the County's transportation system safe and efficient for all uses and modes of travel. Road Services' GIS activities support this mission in the areas of planning, engineering, construction, maintenance, emergency response, and traffic services for unincorporated King County. GIS staff distributed across several Road Services offices provide user support, technical application support, spatial analysis, data collection and management, and map making services. In 2008 RSD will take steps to catalog and update division data resources in order to improve maintenance, reduce redundancy, and move appropriate datasets to the enterprise Spatial Data Warehouse. The Division is also taking steps to update the systems used to collect, manage, and report operations data including asset inventories. Presently a steering committee and project team is working to investigate existing methods, assess needs, and investigate potential alternatives under the acronym RCAMM – Roads Comprehensive Asset and Maintenance Management. When implemented, RCAMM will have heavy dependencies on GIS data.
- A GIS Program Manager was hired in 2007 to develop a division wide GIS. Road Services' GIS is decentralized requiring division-wide coordination through the GIS Committee led by the GIS Program Manager. The RSD GIS Committee consists of members from all sections throughout Road Services representing GIS activities and initiatives required to support business functions. This committee meets once per month and is chartered with improving cross-sectional communication, facilitate the use of GIS standards and best practices, provide spatial and analytical information as well as business expertise in the context of GIS to better support the division. Members of the RSD GIS Committee support end-users with GIS software applications, data development, maintenance of GIS data, response to GIS related work and map requests.
- Expertise in transportation and specific RSD programs and business systems enable the RSD transportation professionals in Administration, Traffic Engineering, Maintenance, Engineering Services (including Survey Services), and CIP & Planning Sections to support and efficiently deliver quality GIS products and applications specific to RSD business. Listed below are some of the business functions within the Road Services Division that rely on Geographic Information.

  Capital Improvement Program (CIP) – Identifies, programs, roadway projects, bridge projects, intersections and traffic flow improvements, including intelligent transportation systems. Projects are mapped, reported, and analyzed using GIS.

  Concurrency Management Program – The King County Council adopted a Transportation Concurrency Management requirement in Ordinance 11617, effective January 9, 1995, and revised under Ordinance 14375, effective June 28, 2002. The ordinance establishes a concurrency management system that assures adequate transportation facilities are available to meet the requirements of new development in King County. GIS is used to depict the annually updated levels of service and monitored corridors adopted by Council.

  Cultural Resources Protection – Laws at the federal, state and local level require agencies such as the RSD to consider impacts of their projects on significant cultural resources. Furthermore, discovery of cultural resources during construction can lead to schedule and budget overruns. For these reasons, the RSD and the Historic Preservation Program (HPP) are developing a GIS planning tool that will increase King County's ability to efficiently manage and protect archaeological and other cultural resources. The planning tool includes the collection and maintenance of data housed in a digital library, and an archaeological sensitivity model created and expressed in GIS.

Emergency Preparedness and Response – Prepare for, and respond to, natural and man-made disaster events affecting the safety and closure of bridges and roadways. Response work includes snow and ice removal, removal of downed trees, landslide cleanup, flood response activities, and emergency road repair.

Engineering Technical Support Services – In-house services that support the RSD's CIP include, but are not limited to, field surveying using GPS, materials lab analysis, computer aided drafting design and mapping, and record management and archival support.

Environmental Compliance – The GIS data, tools, and applications necessary for the RSD to achieve environmental compliance require constant update and evaluation by staff with technical expertise in roadway construction, maintenance, and engineering. GIS is a critical tool in complying with federal, state, and local environmental laws, regulations and policies. The federal Endangered Species Act, as well as the Clean Water Act, requires detailed geographical data regarding waterways habitat and storm water. Compliance with other federal environmental regulations, such as Army Corps of Engineer permit requirements, is greatly enhanced with accurate GIS data and applications. At the state level, fish and wildlife code and water quality laws necessitate accurate geographical data in terms of roadways, fish habitat, and storm water. Adherence to the state Growth Management Act is also more easily accomplished with accurate geographic environmental data. King County codes such as the Sensitive Areas Ordinance also require the RSD to use and update accurate GIS information and applications.

Inter-jurisdictional Service Contracts – The Road Services Division provides a significant level of contract service to eleven cities that have incorporated since 1990, or expanded significantly through annexation. The Division also has valued contractual relationships with many additional cities. Services provided by contract include maintenance, engineering, environmental, and transportation planning services.

Road and Bridge Maintenance Operations – Provides regular ongoing maintenance, operations, and repair activities to ensure a safe, quality roadway system in unincorporated King County. GIS tools are used to track facility inventories that are maintained and managed using the Division's Maintenance Management Systems (MMS).

Traffic Operations – Includes the collection and analysis of traffic count and accident data; operation of traffic control systems; design, inventory tracking, installation and maintenance of safety improvements including signals and other traffic control equipment, guardrails, signs, and pavement markings; traffic impact (of development) review; and identification and implementation of neighborhood safety improvements.

Transportation Planning – The Transportation Needs Report (TNR), which represents the transportation improvement projects necessary for the next 20 years, is being revised along with the method used to prioritize projects for funding in the CIP. The GIS is being used as a primary tool to aggregate different types of transportation projects to common corridors. A corridor approach to programming diverse CIP projects will lead to efficiencies to program planning, design, mitigation and construction.

4.12.2 Planned Project Activity and New Projects

Name	**Road Services Division Web Mapping Tool**
Description	This is a project to allow RSD workers to map and retrieve incident locations over the Web.
Interdependencies	Undetermined at this time.
Status	Not Started

Target	2008
Activity	▪ Planning.

Name	**Route and Location Solution**
Description	RSD needs to spatially reference various required data items in a consistent, reliable, and accessible manner to meet operational requirements. The data items consist of assets and events that occur along the roadway (e.g. roads and their condition, signs, drainage, etc).
Interdependencies	TNET geodatabase fully integrated and functioning with consortium's master geodatabase.
Status	In progress.
Target	2008
Activity	▪ Develop scope, requirements and data design for RSD data objects.

4.12.3 Data Enhancement and Development

Name	**TNET Centerline Improvements**
Description	RSD has assumed responsibility for maintaining the road centerline geography in unincorporated King County and in cooperation with DOT Transit for those cities that do not actively participate in the TNET consortium. This includes improving the spatial accuracy of existing linework based upon 2002 higher accuracy imagery and adding new linework as new roads are developed.
Interdependencies	Availability of TNET geodatabase for editing.
Status	In progress.
Target	This is a long-term improvement program. Principle improvements are expected to be completed about mid 2008 if editing can resume by the end of 2007 and Division resources remain available.
Activity	▪ Creating and updating the centerlines for unincorporated King County with TNET extension using the best available aerial photography.

Name	**RSD GIS Data Conflation**
Description	RSD GIS data need to be conflated to reference one linear network (TNET).
Interdependencies	TNET geodatabase fully integrated and functioning with consortium's master geodatabase.

Status	In progress.
Target	2008
Activity	▪ Develop methods for conflation to new data design.

4.12.4 Application Enhancement and Development

Name	**Data Management Routines**
Description	As data are migrated to TNET, automated routines for data publication, data quality and integrity checks need to be developed. An automated shapefile generator needs to be implemented to support end users.
Interdependencies	Data are migrated to a geodatabase referencing TNET.
Status	Not started.
Target	2008
Activity	▪ Develop requirements and develop supportable automated routines.

4.12.5 Hardware, Software, Database, and Licensing Changes

- SDE has been installed on a development server for testing. Jabba was migrated to a SAN array this year and will be migrated to a new platform by the end of 2007.

4.12.6 Staffing Changes

- The Roads GIS program manager position was filled in June 2007.

4.12.7 Other Changes

- None planned.

4.13 DOT – Transit Division

4.13.1 Agency GIS Overview, Priorities, and Goals

- The mission of the Transit Division is to provide the best possible public transit services that get people on the bus and improve regional mobility and quality of life in King County. The Transit GIS group is located within the Information Technology (IT) Section of the Transit division. The IT section is responsible for a set of core Transit functions that ensure the daily operation of business systems necessary to run the transit system and guarantee the integration of technology projects into Transit's business process and operating environment (http://dot.metrokc.gov/mitts/mitthome/default.htm). The workgroups within the section form a comprehensive team for supporting Transit's information systems infrastructure. Within the section, the Transit GIS workgroup is focused on the day-to-day operational needs to provide the county with bus service. These include the ongoing maintenance of GIS data and applications necessary to support division, department, and county business needs. The Transit GIS workgroup represents the Transit Division focal point for all spatial services, data, applications, and support requests originating from within and from outside the division.
- GIS is an *enabling* technology, and Transit GIS is responsible providing GIS users a healthy, functioning system ensuring that the necessary infrastructure is in place and accessible for staff throughout the division to incorporate GIS tools and data into their workflows as required. This workgroup has a clear understanding of all Transit business functions, the geographic elements of these functions, and the best delivery mechanisms necessary to support them. This includes publication of spatial information in Transit corporate databases with other business data; development of specialized extensions to GIS vendor off-the-shelf products; development of whole new applications to support spatial data maintenance, access, and reporting; and advice to project managers on the acquisition of vendor products with geographic components. The Transit Division GIS workgroup also has the responsibility for coordinating data maintenance of a variety of business specific spatial data layers. Both the support services and data maintenance coordination responsibilities are essential to many business functions within the agency.
- GIS Professionals within the workgroup provide technical expertise, transit business expertise, training, transit map and data products, user support, vendor software installation, application development, and application support. These support services are targeted primarily at internal clients including Service Planning, Service Development, Service Quality, Service Communication, Safety Program, Security Program, Paratransit Operations, Design and Construction Program, Transit Speed and Reliability, Automatic Passenger Counters, Automatic Vehicle Location System, Customer Information, federally mandated Equity in Transit and Section 15 Reporting, and transportation planners in the Road Services Division and DOT Director's Office. Also, Transit information systems projects often have geographic components necessitating GIS staff expertise. For the next several years, the highly visible On-board Systems, Radio Replacement, and Regional Fare Card capital projects have priority for the agency, and will continue to require occasional consulting from Transit GIS. Providing excellent support services to existing operations within Transit, these capital projects, and other external clients (see below) will continue to be a challenge given current staffing levels and budget constraints.
- Transit GIS developed a process to support Public Data Requests. These requests have come from businesses such as Google and Microsoft as well as from individual citizens. The data requested is made available on an external secure HTTP site for anyone to access after signing a required disclaimer. The transit data is specific in nature and is intended to use in trip planning or "real time" bus location systems on the Web.
- In addition to Transit geographic business needs, new relationships will continue to be forged as the new Transportation Network (TNET) GIS Data Maintenance Initiative is deployed. This program is a consortium of regional cities, county agencies as well as public/private partnerships participating in maintaining a seamless database of transportation related spatial and attribute

datasets. These datasets are housed centrally and maintained by transportation planners, city and county engineers, emergency response personnel and GIS analysts. This cooperative arrangement permits the availability of a high-accuracy, up-to-date transportation network suitable for a variety of transportation planning, operations, and related business functions throughout the region. Transit GIS plays three pivotal roles in the TNET program:

- Maintain Transit specific pathways. Transit GIS participates in the TNET Program as other consortium partners with the responsibility of data maintenance for all features within King County Metro's jurisdiction such as streets at park and rides, bases, transit centers, the transit tunnel, and the E-3 busway. Transit GIS also is responsible for data maintenance of features that extend outside of King County such as freeways, state routes, and roads necessary for routing buses in adjacent counties. Finally, to achieve complete geographic coverage, Transit GIS has assumed the responsibility of maintaining any "unclaimed" geographic areas within King County.
- Support the master environment and each agency's implementation of TNET infrastructure: The TNET architecture consists of a central master repository that is replicated to each participating agency. Transit GIS is responsible for managing the entire infrastructure of the master repository including the database, the software, developed applications, and hardware (including a separate test/development environment). Support activities include monitoring the TNET system; ensuring access by consortium members; maintenance and administration of ArcSDE; ensuring the proper functioning of the connectivity infrastructure; server support; application maintenance; database maintenance and software upgrades; as well as operating system maintenance and upgrades. Transit GIS will also provide assistance to all participating agencies in the support of their respective agency environments.
- Coordinate the TNET Consortium. Transit GIS will serve as coordinator for the TNET Consortium. This includes coordinating editing conflicts between agencies; ensuring the proper and consistent implementation of the data maintenance standards; providing informational seminars to technical staff, management, and decision makers as requested; and hosting consortium meetings as needed.

Transit GIS provides support to TNET Consortium members through a group email monitored by Transit GIS Staff (TNET@metrokc.gov), a GIS Community forum hosted by the Washington chapter of URISA (http://waurisa.org/phpBB2/index.php), and an informational website hosted by the King County GIS Center (http://www.metrokc.gov/gis/Projects/TNET/TNET_main.htm). The KCGIS Center is regularly informed of Transit GIS' TNET Consortium activity so that the enterprise might benefit from those relationships. The new transportation network will not only increase the number of users supported by Transit GIS, but it will add users from non-King County agencies who will be accessing an important and highly-visible system. It will be an ongoing challenge for Transit GIS to prioritize support required by Transportation Network Consortium members and Transit business personnel.

- Members of Transit GIS also participate on a variety of Federal workgroups to develop national standards for the communication of Transit spatial data to public and private agencies. The goal is to both convey King County Metro Transit's requirements and minimize any impacts to the agency in adopting these standards. Also, Transit GIS is involved in the development of a transportation database of location-based transportation data to use in GIS across the state of Washington (http://www.wsdot.wa.gov/mapsdata/TransFramework/default.htm). As part of this framework effort, King County Transit GIS is working closely with Pierce County and Washington State DOT on a pilot advisory team to develop a seamless multimodal transportation network between the two counties. King County will benefit from this project in its alignment of transportation network features along the county boundary supporting 911 service provision and regional transportation planning.

4.13.2 Planned Project Activity and New Projects

Name	**Transit GIS Migration**
Description	Migrate all users, data, and applications off UNIX and on to Wintel platform.
Interdependencies	Migration from UNIX, legacy ArcInfo, and the coverage format necessitates the KCGIS Center accepts shapefiles or geodatabases for enterprise library. (Resolved)
Status	In progress – All users and data migrated. Major applications migrated.
Target	2008
Activity	▪ Complete development and production deployment of remaining applications. ▪ Retire legacy applications and UNIX server.

Name	**TNET**
Description	Development of a new high-accuracy, multi-modal, current transportation network data layer, data maintenance application, and model for cooperative, distributed data maintenance with county departments and local jurisdictions.
Interdependencies	Coordination with external transportation network data maintainers will include the KCGIS Center. The Road Services Division, DDES, and E-911 Program Office are expected to be data maintainers.
Status	All data development complete. Finalizing synchronization technology for deployment to external agencies.
Target	2008
Activity	▪ Deploy system (data, maintenance application, and connectivity technology) to consortium members.

4.13.3 Data Enhancement and Development

Name	**Landmarks/Points of Interest**
Description	Develop a single data maintenance procedure and data layer combining the landmarks data layer maintained by Transit and points of interest data layer maintained by the KCGIS Center.
Interdependencies	Coordination with the KCGIS Center and any other workgroups interested in these two data layers.
Status	Not started.
Target	2008

Activity	▪ Design data layer structure. ▪ Identify data owners, users, and methodology for data maintenance. ▪ Train data maintainers. ▪ Implement.

4.13.4 Application Enhancement and Development

Name	**Service Quality**
Description	This project will develop a new application. This application will support Transit Service Quality section's spatial business needs. Service Quality's primary responsibility is to provide 24-hour daily support and on-street supervision of Transit services. This includes response to transit emergencies and service disruptions, customer and employee assistance requests, adverse weather service management, short/long term route planning, construction impact mitigation, operator comfort station program (restroom) management, special event planning and response, Metro tunnel service management, and other service-related investigations and activities. Staff within service quality use GIS tools and data to assist in many of these functions.
Interdependencies	None.
Status	Started.
Target	2008
Activity	▪ Application scoping completed in 2005. All other project management and application development activity is expected to be completed in 2008.

Name	**Service Planning**
Description	This project will develop a new application. This application will support Transit Service Planning section's spatial business needs. Service planning refers to the determination of changes to transit services including types of service, routing, time periods, and frequency of operation. This function is also responsible for developing technical and policy analyses supporting longer-range transit planning efforts. GIS analytical tools and data are used to assist this function and are essential to create proposed alternatives for presentation to elected officials and communities to build consensus and support for proposals to change or add service.
Interdependencies	None.
Status	Not started.
Target	2008
Activity	▪ Scoping, requirements development, system design.

Name	**Transportation Map Set**
Description	This project will develop a transportation map set for the Internet.
Interdependencies	Coordination with the KCGIS Center and any other workgroups interested in a transportation map set.
Status	Not started.
Target	2008/2009
Activity	▪ We will work with the KCGIS Center to scope out the functionality for this map set and potentially start work in 2008.

4.13.5 Hardware, Software, Database, and Licensing Changes

- As part of a Transit IT section wide effort, Transit GIS servers will migrate to high performance Blade server technology in 2008.

4.13.6 Staffing Changes

- Mike Berman was permanently promoted to Supervisor with responsibility that includes GIS. Tamara Davis served as acting GIS Program Manager, but accepted a position in the DOT Road Services Division as “GIS and IT Project Manager”. Stephen Krippner was promoted from Senior Applications Developer to Transit GIS Program Manager. The result of these changes is a requirement for a new Senior Applications Developer and a GIS database administrator. These positions will be filled in 2008.

4.13.7 Other Changes

- The relationship with the KCGIS Center to provide on-call backup database services during Transit GIS primary DBA vacations and sick leave continues. This relationship is expected to be temporary until the section undergoes a reorganization in part intended to provide this function internally.

4.14 DOT – King County International Airport

4.14.1 Agency GIS Overview, Priorities, and Goals

- King County International Airport (KCIA) is operated as a Division of King County's Transportation Department. The mission of KCIA is to support the economic vitality of the county, support the national air transportation system, encourage advanced technology, provide safe and continuous general aviation airport services to King County businesses and residents, and serve as a gateway to the region. The Airport supports commercial, corporate, cargo and military aviation, as well as general aviation and aviation manufacturing. The Airport currently uses the KCGIS Center as its primary provider of GIS services and anticipates continuing to do so in the near future.
- KCIA does not have a stand-alone GIS unit. A GIS Analyst is on staff to perform GIS tasks on Airport's GIS related projects. The GIS Analyst performs all GIS related functions and serves as the Division's liaison with KCGIS. This Analyst reports to the Airport Director.
- Listed below are the business functions within the Division that use or plan to use GIS:
    - ***Administration, Planning and Property Management*** – The Airport or their consultants use GIS for analysis in plan development, environmental evaluations, program tracking and production of graphic materials. Property Management will use the newly developed Airport Information System (AIS) database for monitoring all leasing activity at the Airport and assisting in facility-based costing. A goal is to integrate AIS and GIS to provide easily accessible data for comprehensive planning and management activities. The Airport Layout Plan will be available in both CAD and GIS data formats. Airport Layout Plan GIS shapefiles may be used in the AIS to support Airport planning and management decisions.
    - ***Engineering and Environmental Management*** – This program provides and/or oversees engineering-related planning, design and construction management and assures that the Airport system operates in an environmentally safe, efficient manner. The Airport uses both CAD and GIS to map and coordinate environmental data, design, and construct documents.
    - ***Maintenance*** – Airport Maintenance maintains and repairs all airport facilities, including runways, taxiways and ramps, utilities, and structures. The Airport recently implemented MAXIMO, a leading asset, maintenance and facility management system. This system can be integrated with the Airport's GIS to provide spatial information for maintenance service of facility, airside, and inventory functions. The integration of the two systems will be analyzed after the basic work order and management functions of MAXIMO are completed.
    - ***Operations and Compliance*** – This program assures that aircraft and their operators are safe while operating at KCIA including the coordination of emergency response planning for the Airport. This business function also includes Airport Rescue and Fire Fighting services (ARFF), law enforcement, which is contracted from the King County Sheriff's Office. The Airport uses CAD and GIS to identify and track safety or security related items, including hazardous materials and emergency response information.
    - ***Noise Office and Sound Insulation Program*** – The Airport's Sound Insulation Program uses GIS to track and maintain program participant data. KCGIS will develop a real-time interactive map based on the Program's participant database for internal use via an Intranet Website as a repository of all relevant information about every property within KCIA's noise contours of 65 dB and above. This information will describe current status and progress of the Sound Insulation Program.

4.14.2 Planned Project Activity and New Projects

- None planned for 2008.

4.14.3 Data Enhancement and Development

Name	**Property Survey Data Conversion**
Description	Convert KCIA's Property Survey CAD layers to GIS shapefiles and develop geodatabase for KCIA's Lease Properties.
Interdependencies	KCGIS Center and KCDOT Roads.
Status	To be started.
Target	2008
Activity	▪ To be determined.

4.14.4 Application Enhancement and Development

Name	**Airport Information System (AIS)**
Description	The AIS will be used to monitor all leasing activity and assist in facility-based costing. The Airport will work with KCGIS Center to evaluate and enhance current AIS functions to better suit the Airport's business practices. This may include other Airport related data layers (i.e. Part 77 Surface, Building Restriction Line, Fences Lines, Apron Limit Lines, Tie-Down Markings, etc).
Interdependencies	KCGIS Center.
Status	To be started.
Target	End of 2008.
Activity	▪ Perform a Needs Assessment prior to discussion of the Scope of Work with KCGIS Center.

Name	**Sound Insulation Program Real-Time Interactive Map**
Description	KCGIS Center will develop a real-time interactive map based on the program's participant database, on the Airport's Intranet website, as a repository of all relevant information about every property within KCIA's noise contours of 65 dB DNL and above. KCGIS Center will also develop a separate interactive map on the Internet for residents to check on their eligibility and obtain program status information.
Interdependencies	KCGIS Center
Status	In Progress.

Target	End of second quarter of 2008
Activity	▪ Product development.

4.14.5 Hardware, Software, Database, and Licensing Changes

- As needed, GIS Analyst uses central licenses through KCGIS on Orca.

4.14.6 Staffing Changes

- None for 2008.

4.14.7 Other Changes

- None for 2008.

4.15 King County Sheriff's Office

4.15.1 Agency GIS Overview, Priorities, and Goals

- Within the King County Sheriff's Office (KCSO), the Research, Planning & Information Services Unit (RP&IS) of the Technical Services Division has primary responsibility for providing GIS services. RP&IS is a multidisciplinary unit with crime analysis being a key responsibility. RP&IS' GIS program vision, mission, and objectives are:

  Vision – To create a Geographic Information System (GIS) with advanced mapping capabilities to serve the citizens of King County, the King County Sheriff's Office and its contract cities.

  Mission – To work collaboratively with other King County departments and their GIS units to stay aware of GIS standards and to produce and provide data and applications that are as accurate as possible, consistent, accessible, affordable and comprehensive for both internal and external customers, while meeting the unique business needs of the King County Sheriff's Office.

  Objective – To demonstrate to staff and customers that GIS is a useful tool for a modern law enforcement agency, by delivering/providing tools/products that are powerful, flexible and relevant to the mission of the King County Sheriff's Office.

- The Research, Planning & Information Services Unit of the KCSO Technical Services Division has no personnel with full-time GIS responsibilities. However, 4.0 RP&IS FTE's are proficient with ArcGIS 9.2 and use it as the primary tool for creating and completing GIS-related projects.
- The RP&IS supervisor coordinates all GIS activity, as well as performing a significant amount of non-GIS related data and information technology business functions. A unique aspect of the RP&IS program is the assignment of GIS support responsibility for a designated geographic region of the county (a precinct) to each of the four ArcGIS proficient staff. This simplifies communications between field staff (patrol), investigative staff (detectives) and the RP&IS crime analysts. The RP&IS supervisor has specific crime analysis support functions (primarily administrative and major crimes/intelligence-related), performs periodic workload balancing and handles a number of specialized projects.
- Types of GIS services provided to end users include mapping, GIS analysis, data development, and limited data maintenance.
- ***Priorities*** – Research, Planning & Information Services/Crime Analysis Unit personnel continue to utilize ST_ADDRESS as a source for 'geocoding' address/crime-related data. However, this file has many data 'holes' and has an update cycle that is not timely enough for some critical functions performed by the Sheriff's Office – notably 911 dispatching. A primary concern of the Sheriff's Office (which is voiced regularly at GIS Technical Committee meetings) is the lack of a definitive address file and an accurate/up-to-date street file. In fact, problems with the current street file have negatively impacted the Sheriff's Office installation of a new Computer Aided Dispatch system and the Sheriff's Office will be maintaining its own street file (tabular data) for the foreseeable future. It is hoped that the addressing/street file initiatives currently in progress (the E-911 GPS Addressing Project and TNET) will eventually result in products/data that will be reliable, timely and accurate.

4.15.2 Planned Project Activity and New Projects

- None planned.

4.15.3 Data Enhancement and Development

- None planned.

4.15.4 Application Enhancement and Development

- None planned.

4.15.5 Hardware, Software, Database, and Licensing Changes

- During 2007 updated ArcView 3.2 licenses to ArcGIS (ArcView) 9.2.

4.15.6 Staffing Changes

- None anticipated.

4.15.7 Other Changes

- None anticipated.

4.16 Metropolitan King County Council

4.16.1 Agency GIS Overview, Priorities, and Goals

- The nine member Metropolitan King County Council is the policy determining body of the county and exercises all legislative powers authorized under the King County charter. These include, but are not limited to: the adoption and enactment of ordinances and motions, levying of taxes, appropriation of funds, establishment of compensation levels for county employees, and the organization of administrative offices and executive departments.
- GIS services for the County Council are provided by its central staff, a non-partisan group of professionals that support the council's legislative committees. The central staff uses GIS to support the council in its policymaking role by manipulating and presenting geographic data in the form of maps, graphics, data files, reports, and spatial analysis. The objective is to provide data and information that will assist council members in their roles as policymakers in a host of issue areas, including but not limited to: land use, transportation, public health and safety, human services, utilities, technology and the environment.
- The County Council does not have a stand-alone GIS unit, but uses a member of central committee staff as a GIS Coordinator to assist the central and other legislative staff in utilizing GIS. The Coordinator serves as a liaison between central staff and the broader GIS community, and is responsible for coordinating training, procuring data, routing requests, and enlisting the help of other departments on complex projects. The GIS Coordinator also serves as the Council representative to the KCGIS Technical Committee.
- The Council does not have responsibility for developing, maintaining, or enhancing spatial data or metadata, but utilizes data and information housed in the KCGIS Spatial Data Warehouse to create maps and conduct spatial analysis. The most frequently used data layers include, but are not limited to:
    - parcels,
    - concurrency and road mitigation payment system,
    - land use and zoning,
    - critical areas,
    - council district boundaries,
    - voting precincts,
    - city boundaries,
    - potential annexation areas,
    - street network and annotation,
    - parks, trails and open space,
    - natural resources lands (agriculture, mining and forestry),
    - hydrology,
    - urban growth area boundary,
    - aerial imagery, and
    - assessor quarter-section maps.
- In mid-2006, the Council contracted with the King County GIS Center to begin conducting a GIS needs assessment for the Council. The current goal for completion is in early 2008. The reasons for conducting the analysis are as follows:
    - The Council's GIS technology platform is out of date. The rest of the county is in the process of migrating from one ESRI software package to another (from ArcInfo 7.x and ArcView 3.x to ArcGIS 9.x), and in the near future the version the Council is using will no longer be supported.
    - The Council is underutilizing GIS, both as a mapping and analysis tool. The central staff could be better utilizing GIS as a visual communication and analysis tool, and the council members would benefit by having more information at their disposal when making policy decisions. The council members' personal staff could be utilizing GIS or GIS applications

to assist with constituent relations, and as a method of better understanding the geographic, demographic, and other characteristics that define each council district.

- The Council contributes a significant amount of money each year to the overhead for the KCGIS Center, when the Council does not participate fully in GIS it does not reap the benefit of this investment, and in effect subsidizes the GIS activities of other departments.
- The needs assessment will guide the Council's future GIS development in a logical, prioritized, and cost effective manner and will consider how the Council can better utilize GIS in the future.

- The GIS Center provided an initial needs assessment to the Council in the early fall of 2007. The initial report will be reviewed by council in early 2008, with a planned completion of the assessment process in Spring 2008.
- Anticipated training needs for 2008 include initial courses in the latest version of ArcGIS 9.x for the GIS Coordinator and for one or two additional staff. Similar training may be necessary for other council staff based on the recommendations of the ongoing GIS needs assessment. The council pays for GIS training with resources from its general training fund.

4.16.2 Planned Project Activity and New Projects

Name	**GIS Needs Assessment and Development Plan**
Description	The KCGIS Center assessment will include a high-level inventory and evaluation of the Council's computer hardware, software, network, business data, database design, applications, staffing, and organization. The purpose of this assessment process is to aid in the development of a GIS conceptual design that maximizes use of KCC systems, data, and staff resources already available.
Interdependencies	This effort is facilitated by the KCGIS Center staff. Progress on this effort is dependant on available time of Council staff and KCGIS Center staff.
Status	In progress.
Target	Spring 2008.
Activity	▪ Project management. ▪ Assess and document current KCC GIS capability and business needs. ▪ Develop KCC GIS assessment and development action plan.

4.16.3 Data Enhancement and Development

- None planned at this time. This could change based on recommendations made in the GIS needs assessment.

4.16.4 Application Enhancement and Development

- None planned at this time. This could change based on recommendations made in the GIS needs assessment.

4.16.5 Hardware, Software, Database, and Licensing Changes

- The most likely change would be migration from one ESRI software package (ArcView 3.x) to another (ArcGIS 9.x) because failure to upgrade in the same manner as the rest of the county will result in the current software being unsupportable by the KCGIS Center.
- Other changes would be as recommended by the GIS needs assessment and approved by the Council.

4.16.6 Staffing Changes

- As recommended by the GIS needs assessment and approved by the Council.

4.16.7 Other Changes

- As recommended by the GIS needs assessment and approved by the Council.

4.17 Office of Management and Budget

4.17.1 Agency GIS Overview, Priorities, and Goals

- The Office of Management and Budget (OMB), often referred to as the "Budget Office," is a branch of the King County Executive Office. The Budget Office mission is to develop, administer and monitor the annual operating budget and capital improvement program, and perform related tasks. The Budget Office, with approximately 40 FTEs, provides broad budget-related policy and fiscal direction analysis for King County government. OMB also monitors compliance with the adopted Budget and performs related information functions.
- OMB operations require organizational flexibility to support major countywide priorities during preparation of the County Executive's proposed budget. For example, a key focus of the adopted 2008 budget is the Annexation Initiative to accelerate municipal annexation and incorporation of all defined Potential Annexation Areas (PAA's) within the urban growth area. This initiative, already well underway, will continue to have a profound impact on the future geographic organization of municipal services within King County. OMB has formed a Regional Governance section, which relies on GIS to support this initiative.
- Budget Office GIS activity supports a subset of specialized business functions for which GIS based maps and analysis can improve agency effectiveness. Staff to handle ad-hoc requests for GIS services are concentrated in the Budget Office Growth Information Team, which reports to the OMB Director through the Chief of the Regional Governance section. The Budget Office economist is also a trained GIS user.
- Business functions of the Budget Office include the following:
    - Operating Budget
    - Capital Improvement Program
    - Performance Monitoring
    - Regional Governance / Annexation Initiative
    - Growth Information Team
    - Economic Forecasting
- OMB's GIS work program is integrated into the Growth Information Team (GIT) work plan as support to all ongoing OMB activity. GIS is centered in the GIT because of the variety of products (Annual Growth Report, Benchmark Report, annexation support documents) and research/analysis responsibilities (demographics, growth management, buildable lands) of GIT that have a strong geographic analysis/mapping component. None of GIT's 3.5 FTE's has full time GIS responsibility, although one spends a majority of her time doing GIS work.
- The GIT supervisor is responsible for section activity, but most GIS work goes directly to the GIS Analyst, who prepares ad hoc maps, analysis, or GIS projects upon request by OMB staff. Requests for more complex services are referred to the KCGIS Center. OMB also develops PAA profile data and maintains buildable lands data, AGR maps, and subdivision summary records.
- OMB's GIS customer base is remarkably broad for an operation of its size. Customers include staff from every agency within King County, as well as from local jurisdictions, business, and the media. Requests are not uncommon from remote jurisdictions, research agencies, and media nationally, and occasionally from overseas. Requests fall into two broad categories: agency decision makers typically request answers to specific questions which can be met with a map or a numerical response; while planners, researchers, and analysts usually want data and map coverages or shapefiles with which to do their own unique analysis.
- The year 2008 will allow rebuilding and enhancement of OMB's GIS files. The Office's primary GIS analyst will focus on refinement of land supply data, especially in rural areas, and on updates of potential annexation areas. There may be significant needs for geographic information during 2008 that the Growth Information Team will not be able to provide. OMB will rely on assistance from the KCGIS Center and other departments to get through the year.

4.17.2 Planned Project Activity and New Projects

Name	**Buildable Lands – Land Supply Inventory / Land Capacity Measurement**
Description	Detailed inventory of vacant and potentially re-developable land in Urban-designated portions of unincorporated King County. Limited measurement and analysis of capacity in Rural-designated areas.
Interdependencies	Depends on data and participation from DDES, DOT-Roads, and KCGIS Center.
Status	Mandated by RCW 36.70A.215, supported by a State grant. Completed 9 / 2007.
Target	Completed as required by law, September 2007.
Activity	▪ Edits, corrections and enhancements throughout 2008. Analysis of infrastructure service to areas with development capacity, and refinement of Rural-area land supply measure. Further analysis of data to respond to data requests.

Name	**US Census 2010 Local Update of Census Addresses (LUCA) Project**
Description	Coordination of interdepartmental effort to evaluate US Census Bureau's address listing for mailout of the 2010 US Census. Providing of King County's address files to US Census Bureau. Extensive data security efforts required.
Interdependencies	Coordination of detailed work by DDES and KCGIS Center with review by REALS.
Status	Authorized by federal law. Begun as of November 2007.
Target	To be completed by April 1, 2008, with follow-up analysis during 2009.
Activity	▪ Work to be done in KCGIS Center and DDES, first quarter 2008, to compare King County address listings with Census Bureau's. Coordination and communication with Census Bureau performed by OMB.

4.17.3 Data Enhancement and Development

Name	**Buildable Lands – Land Supply Data Enhancements**
Description	See Buildable Lands land supply inventory project above.
Interdependencies	Depends on data and assistance from DOT-Roads and DNRP-WLRD as well as KCGIS Center.
Status	Part of 2008 work program, funded in part by State grant.
Target	Planned for completion in 2008.
Activity	▪ Examine relationship between buildable lands identified in 2007 Buildable Lands Report and infrastructure service in unincorporated King County.

4.17.4 Application Enhancement and Development

- None planned.

4.17.5 Hardware, Software, Database, and Licensing Changes

- Will acquire a color printer to supplement HP drum plotter.

4.17.6 Staffing Changes

- No changes planned. After intense work on Buildable Lands in 2007, our GIS Analyst should be able to resume normal GIS work in 2008.

4.17.7 Other Changes

- No other changes are anticipated.

4.18 Department of Community and Human Services

4.18.1 Agency GIS Overview, Priorities, and Goals

- Plan not submitted in time for first publication. Plan is expected to be provided as an addendum in early 2008.

4.18.2 Planned Project Activity and New Projects

- Plan not submitted in time for first publication. Plan is expected to be provided as an addendum in early 2008.

4.18.3 Data Enhancement and Development

- Plan not submitted in time for first publication. Plan is expected to be provided as an addendum in early 2008

4.18.4 Application Enhancement and Development

- Plan not submitted in time for first publication. Plan is expected to be provided as an addendum in early 2008

4.18.5 Hardware, Software, Database, and Licensing Changes

- Plan not submitted in time for first publication. Plan is expected to be provided as an addendum in early 2008

4.18.6 Staffing Changes

- Plan not submitted in time for first publication. Plan is expected to be provided as an addendum in early 2008

4.18.7 Other Changes

- Plan not submitted in time for first publication. Plan is expected to be provided as an addendum in early 2008

5 Appendix A: Summary Information

5.1 Staffing

5.1.1 KCGIS Center

Working Title	Focus	Class	Status	% GIS
KCGIS Center Manager	Staff management and organization, program oversight and direction	IT Enterprise Mgr. II	FTE	100
GIS Finance and Marketing Manager	Budget, financial control, marketing	IT Project Mgr. II	FTE	100
GIS Enterprise Services Manager / PRD and SWD GIS Program Manager	Contracts administration, external data acquisition / GIS program management for PRD and SWD	IT Supervisor I	FTE	100
Office Manager	Administrative and office services	Administrator II	FTE	100
GIS Data Coordinator	Data inventory, assessment, and coordination	IT Project Mgr. II	FTE	100
GIS Application Developer	KingStat technical implementation and support	GIS Spec. – Master	FTE	100
GIS Application Developer	Web and front-end applications	GIS Spec. – Master	FTE	100
GIS Application Developer	Desktop applications, website management	GIS Spec. – Master	FTE	100
System Administrator	System administration, NT and UNIX	LAN Admin. – Master	FTE	100
GIS Database Administrator	Database administration Oracle, SQL Server, ArcSDE	GIS Spec. – Senior	FTE	100
GIS Programmer	Tools development	GIS Spec. – Senior	FTE	100
GIS Analyst	Cadastral data coordination	GIS Spec. – Journey	FTE	100
Client Services Manager	Client Services program management	IT Supervisor I	FTE	100
Project Manager	Client Services project coordination	IT Project Mgr. I	FTE	100
GIS Analyst	Publication cartography	GIS Spec. – Senior	FTE	100
GIS Training Coordinator	GIS training services	GIS Spec. – Journey	FTE	100
GIS Analyst	Client Services project support (filled as work load warrants)	TBD	FTE (Vacant)	100
GIS Analyst	Client Services project support	GIS Spec. – Journey	FTE	100
GIS Analyst	Matrix support to Transit	GIS Spec. – Journey	FTE	#
GIS Analyst	Matrix support to RSD	GIS Spec. – Senior	FTE	#
GIS Analyst	Matrix support to WTD	GIS Spec. – Senior	FTE	#
GIS Analyst	Matrix support to WTD	GIS Spec. – Senior	FTE	#
GIS Analyst	Matrix support to WTD	GIS Spec. – Journey	FTE	#

Working Title	Focus	Class	Status	% GIS
GIS Analyst	Matrix support to WTD / Client Services project support	GIS Spec. – Journey	0.6 FTE	50#
GIS Analyst	Matrix support to WLRD	GIS Spec. – Senior	FTE	#
GIS Analyst	Matrix support to WLRD	GIS Spec. – Senior	FTE	#
GIS Analyst	Matrix support to WLRD	GIS Spec. – Senior	FTE	#
GIS Analyst	Matrix support to WLRD	GIS Spec. – Journey	FTE	#
GIS Analyst	Matrix support to PRD / Client Services project support	GIS Spec. – Journey	FTE	75#
GIS Analyst	Matrix support to PRD and SWD	GIS Spec. – Senior	FTE	#
GIS Analyst	Matrix support to PRD and SWD	GIS Spec. – Journey	FTE	#

For matrixed positions, % GIS is proportioned to each supported agency's staffing table

5.1.2 Department of Assessments

Working Title	Focus	Class	Status	% GIS
GIS Specialist	GIS	GIS Spec. - Senior	FTE	95
Mapping Supervisor	Supervisor of mapping staff	Mapping Supervisor	FTE	75
Cartographer	Cadastral maintenance and other department maintained layers.	GIS Spec. - Journey	FTE	95
Cartographer	Cadastral maintenance	GIS Spec. - Entry	FTE	95
Cartographer	Cadastral maintenance	GIS Spec. - Entry	FTE	95
Cartographer	Cadastral maintenance	GIS Spec. - Entry	FTE	95
Cartographer	Cadastral maintenance	GIS Spec. - Entry	FTE	95
Cartographer	Cadastral maintenance	GIS Spec. - Entry	FTE	95
Cartographer	Cadastral maintenance	GIS Spec. - Entry	FTE	95
Various – Appraisers, programmers	Analysis, implementation and application development	Various	FTE	⊗

⊗ Difficult to quantify

5.1.3 Department of Development and Environmental Services

Working Title	Focus	Class	Status	% GIS
IS Section Manager	Staff supervision, program management, GIS/IS integration	IT Manager	FTE	25
Lead GIS Analyst	Staff Coordination, data development, data documentation, county wide GIS coordination, data analysis	GIS Spec. – Master	FTE	100

Working Title	Focus	Class	Status	% GIS
GIS Analyst/Programmer	Application, development, SDE administration, data maintenance, data documentation, data analysis, map production	GIS Spec. – Senior	FTE	100
GIS Analyst/Programmer	Application design, application development, end user education, data analysis, map production	GIS Spec. – Senior	FTE	100
GIS Analyst/Cartographer	Map production, data analysis, data development, data maintenance, data documentation	GIS Spec. – Senior	TLT	100

5.1.4 DES – Emergency Management Division

Working Title	Focus	Class	Status	% GIS
E-911 PSAP Mapping Administrator	Support GIS mapping for the E-911 Program Office and 13 PSAPs	GIS Spec. – Senior	FTE	100
E-911 PSAP Mapping Analyst	Support the E-911 GIS Mapping Administrator, E-911 Office, and 13 PSAPs	GIS Spec. – Journey	FTE	100
Ali Database Administrator	Ali database and MSAG maintenance	To be determined	FTE	50

5.1.5 DES – Records, Elections, and Licensing Services Division

Working Title	Focus	Class	Status	% GIS
Program Manager/GIS Supervisor	Coordination of GIS and other activities for the department.	IT Supervisor I	FTE	50
GIS Analyst	Data Development, Data Integration, data maintenance, map production and GIS analysis	GIS Spec. - Senior	FTE	90
GIS Analyst	Data integration, data maintenance, map production and GIS analysis	GIS Spec. - Journey	FTE	90
GIS Analyst	Data integration, data maintenance, map production and GIS analysis	GIS Spec. - Journey	FTE	90
GIS Analyst	Data maintenance, map production and election and voter registration support	GIS Spec. - Entry	FTE	90

5.1.6 DES –Facilities Management Division

- No dedicated GIS staff.

5.1.7 DNRP – Wastewater Treatment Division

Working Title	Focus	Class	Status	% GIS
GIS Analyst§	Combined Sewer Overflows program, operations and maintenance, Web applications, database development	GIS Spec. – Senior	FTE	100#
GIS Analyst§	Brightwater, Water Reuse program	GIS Spec. – Senior	FTE	100#
GIS Analyst§	Conveyance System Improvements program	GIS Spec. – Senior	FTE	100#
GIS Analyst§	Conveyance System Improvements program / KCGIS Center client services	GIS Spec. – Journey	0.3 FTE	30#

§ Matrixed from KCGIS Center
# For matrixed positions, % GIS is proportioned to each supported agency's staffing table

5.1.8 DNRP – Water and Land Resources Division

Working Title	Focus	Class	Status	% GIS
GIS Analyst§	Image processing, SMP & analysis, general WLR GIS analysis projects	GIS Spec. – Senior	FTE	100#
GIS Analyst§	ArcIMS (iMap) and GIS-related web applications, general WLR GIS analysis projects	GIS Spec. – Senior	FTE	100#
GIS Analyst§	Forestry, agriculture, land ownership, noxious weeds, current use assessment, open space and general WLR GIS analysis projects	GIS Spec. – Senior	FTE	100#
GIS Analyst§	DNRP GIS intranet site maintenance. CARA, ASGWC04 and general WLR GIS analysis projects	GIS Spec. – Journey	FTE	100#

§ Matrixed from KCGIS Center
# For matrixed positions, % GIS is proportioned to each affected agency's staffing table

5.1.9 DNRP – Parks and Recreation Division

Working Title	Focus	Class	Status	% GIS
GIS Analyst§	Parks and Recreation database maintenance, data analysis, map design and production, web services, and application	GIS Spec. - Senior	FTE	50#

Working Title	Focus	Class	Status	% GIS
	development			
GIS Analyst§	Parks and Recreation database maintenance, data analysis, map design and production	GIS Spec. - Journey	FTE	50#
GIS Analyst§	Parks and Recreation database maintenance, data analysis, map design and production	GIS Spec. - Journey	FTE	25#

§ Matrixed from KCGIS Center
# For matrixed positions, % GIS is proportioned to each affected agency's staffing table

5.1.10 DNRP – Solid Waste Division

Working Title	Focus	Class	Status	% GIS
GIS Analyst§	Solid Waste database maintenance, data analysis, map design and production, web services, and application development	GIS Spec. - Senior	FTE	50#
GIS Analyst§	Solid Waste database maintenance, data analysis, map design and production	GIS Spec. - Journey	FTE	50#

§ Matrixed from KCGIS Center
# For matrixed positions, % GIS is proportioned to each affected agency's staffing table

5.1.11 Department of Public Health

Working Title	Focus	Class	Status	% GIS
Program Manager	Data analysis, project management, map production	PPM II	FTE	40
Environmental Health Specialist	Data analysis, project management, map production	EHE II	FTE	50
Epidemiologist	Data analysis, project management, map production	Epidemiologist II	FTE	30

5.1.12 DOT – Roads Services Division

Working Title	Focus	Class	Status	% GIS
Budget and Systems Manager (Administration)	Budget and financial planning and IT management	Manager	FTE	5
Division IT Program Coordinator	Managing information systems in the Road Services Division	IT Supervisor I	FTE	10
Division GIS Program Manager	Develop and coordinate GIS for the Roads Services Division	IT Program Manager II	FTE	80
Maintenance Section Technology Unit Supervisor	Maintenance Section lead	IT Supervisor I	FTE	10

Working Title	Focus	Class	Status	% GIS
Maintenance Section Data Handling	Maintenance Section production	Engineer 1	FTE	60
Maintenance Section Technology Unit Fieldwork Supervisor	Maintenance Section data collection	Engineer 4	FTE	25
Road Services Division Data Analyst§	Map production and data analysis	GIS Spec. - Senior	FTE	100#
Engineering Section Data Manager (Engineering)	Engineering section lead	Engineer 3	FTE	40
Engineering Section Data Analyst (Engineering)	Map production and data analysis	Engineer 2	FTE	90
Traffic Section Data Manager	Traffic section lead	IT Project Manager I	FTE	30

§ Matrixed from KCGIS Center
# For matrixed positions, % GIS is proportioned to each supported agency's staffing table

5.1.13 DOT – Transit Division

Working Title	Focus	Class	Status	% GIS
GIS Program Manager	Team lead, operations coordination, Transit Division liaison, training	IT Project Manager II	FTE	95
GIS Database Administrator	INFO, geodatabase, shape, ArcSDE administration, and GIS-to-Oracle interfacing	DBA - Senior	FTE (Vacant)	95
GIS Senior Application Developer	System architecture, application development, and coordination	App. Dev. - Senior	FTE	95
GIS Application Developer	Application development	App. Dev. - Senior	FTE (Vacant)	95
GIS Analyst	Data maintenance, map production, data analysis, software installation	GIS Spec - Journey	FTE	95
GIS Analyst§	Data maintenance, map production, data analysis, software installation	GIS Spec. - Journey	FTE	100#
IT Supervisor	GIS team supervisor, KCGIS Oversight representative	ISP V	FTE	15
IT Systems Analyst	Hardware and operating system support (NT, Web)	Sys. Eng. - Senior	FTE	10
IT Oracle DBA	Oracle database administration	DBA - Senior	FTE	15

§ Matrixed from KCGIS Center
# For matrixed positions, % GIS is proportioned to each supported agency's staffing table

5.1.14 DOT – King County International Airport

Working Title	Focus	Class	Status	% GIS
GIS Analyst	Map production, data analysis, data maintenance, and GIS coordination.	PPM II	TLT	40

5.1.15 King County Sheriff's Office

Working Title	Focus	Class	Status	% GIS
RP&IS Supervisor	Research/planning, information/data systems planning and management, supervision, crime analysis	Research and Technology Supervisor	FTE	10-15
Crime Analyst	Crime analysis and mapping	Project/Program Manager II	FTE	10-15
Crime Analyst	Crime analysis and mapping	Project/Program Manager II	FTE	10-15
Crime Analyst	Crime analysis and mapping	Project/Program Manager II	FTE	10-15

5.1.16 Metropolitan King County Council

Working Title	Focus	Class	Status	% GIS
GIS Coordinator	Assist staff in utilizing GIS, liaison between Council and broader GIS community, coordinate training, procure needed data, route requests, enlist help of other departments or KCGIS Center as needed	Legislative Analyst	FTE	15

5.1.17 Office of Budget

Working Title	Focus	Class	Status	% GIS
Analyst / GIS Coordinator	Data analysis, project management	PPM II	FTE	70
Benchmark Program Coordinator	Report project management	PPM III	FTE	5
Economist	Economic research	Executive Assistant	FTE	10

5.1.18 Department of Community and Human Services

- Plan not submitted in time for first publication. Plan is expected to be provided as an addendum in early 2008.

5.2 Budget

5.2.1 KCGIS Center

Item	O&M and Client Services	Matrix GIS Staff Unit	Combined KCGIS Center	Comments
Labor Costs (salary + benefits)	$2,136,048	$1,304,189	$3,440,238	
Hardware (acquisition and maintenance)	$59,960	$19,240	$79,200	Includes $23,200 allocated to the long term equipment replacement funds.
Software (acquisition and maintenance)	$103,153	$19,449	$122,602	
Training costs	$25,150	$16,250	$41,400	
Discretionary (consultants, outside services, materials, etc.)	$312,007	$16,475	$328,482	Includes $200,000 allocated to the aerial imagery replacement fund. Includes $36,497 appropriation authority for cost reimbursable client services expenses.

5.2.2 Department of Assessments

Item	Budget	Comments
Labor Costs (salary + benefits)	$711,688	
Hardware (acquisition and maintenance)		
Software (acquisition and maintenance)	$20,000	Based on 2007 ESRI quote.
Training costs		
Discretionary (consultants, outside services, materials, etc.)	$ 62,164	For KCGIS Center client services support.

5.2.3 Department of Development and Environmental Services

Item	Budget	Comments
Labor Costs (salary + benefits)	$442,234	Average fully loaded FTE cost times 4.25.
Hardware (acquisition and maintenance)	$35,000	Based on 1/3 proportion of general IS hardware costs.
Software (acquisition and maintenance)	$96,400	Based on 1/3 proportion of general IS software costs plus GIS specific software.
Training costs	$10,000	Based on 1/3 proportion of IS training budget.

Item	Budget	Comments
Discretionary (consultants, outside services, materials, etc.)	$23,440	$7,440 budgeted for Client Services from the KCGIS Center. Remainder for miscellaneous supplies, and GIS conference travel expense.

5.2.4 DES – Emergency Management Division

Item	Budget	Comments
Labor Costs (salary + benefits)	$197,446	One FTE GIS Administrator position and one FTE GIS Analyst position.
Hardware (acquisition and maintenance)		
Software (acquisition and maintenance)	$209,356	Software purchased to support E-911 GPS Address project and PSAP CAD maps.
Training costs	$3,000	PSAP employee training for mapping.
Discretionary Items		No discretionary items for 2008.

5.2.5 DES – Records, Elections, and Licensing Services Division

Item	Budget	Comments
Labor Costs (salary + benefits)	$540,000	Includes 1 TLT VBM GIS position.
Hardware (acquisition and maintenance)	$3,700	
Software (acquisition and maintenance)	$6,800	
Training costs	$2,000	This budgeted amount is insufficient to meet Division GIS training needs.
Discretionary (consultants, outside services, materials, etc.)	$16,000	$7,719 budgeted for KCGIS Center client services.

5.2.6 DES –Facilities Management Division

Item	Budget	Comments
Labor Costs (salary + benefits)		
Hardware (acquisition and maintenance)		
Software (acquisition and maintenance)		
Training costs		

Item	Budget	Comments
Discretionary (consultants, outside services, materials, etc.)	$23,064	For KCGIS Center Client Services. No further project funding for the REPMS project has been released by OIRM/PRB.

5.2.7 DNRP – Wastewater Treatment Division

Item	Budget	Comments
Matrix Labor Costs (salary + benefits)	$370,915	Includes cost for 3.30 FTE plus allocated portion of KCGIS Center management and administrative labor costs.
Hardware (acquisition and maintenance)	$5,497	
Software (acquisition and maintenance)	$4,743	
Training costs	$4,643	
Discretionary (consultants, outside services, materials, etc.)	$48,510	Includes $43,803 for KCGIS Center client services support and $4,707 for miscellaneous supplies and services.

5.2.8 DNRP – Water and Land Resources Division

Item	Budget	Comments
Matrix Labor Costs (salary + benefits)	$458,189	Includes cost for 4.00 FTE plus allocated portion of KCGIS Center management and administrative labor costs.
Hardware (acquisition and maintenance)	$6,663	
Software (acquisition and maintenance)	$8,597	
Training costs	$5,628	
Discretionary (consultants, outside services, materials, etc.)	$5,706	

5.2.9 DNRP – Parks and Recreation Division

Item	Budget	Comments
Labor Costs (salary + benefits)	$134,775	Includes cost for 1.25 FTE plus allocated portion of KCGIS Center management and administrative labor costs.
Hardware (acquisition and maintenance)	$2,082	
Software (acquisition and maintenance)	$1,797	
Training costs	$1,759	
Discretionary (consultants, outside services, materials, etc.)	$31,171	Includes $29,388 for KCGIS Center client services support and $1,783 for miscellaneous supplies and services.

5.2.10 DNRP – Solid Waste Division

Item	Budget	Comments
Labor Costs (salary + benefits)	$107,849	Includes cost for 1.00 FTE plus allocated portion of KCGIS Center management and administrative labor costs.
Hardware (acquisition and maintenance)	$1,666	
Software (acquisition and maintenance)	$1,437	
Training costs	$1,407	
Discretionary (consultants, outside services, materials, etc.)	$1,426	Includes costs for miscellaneous supplies and services.

5.2.11 Department of Public Health

Item	Budget	Comments
Labor Costs (salary + benefits)		
Hardware (acquisition and maintenance)		
Software (acquisition and maintenance)		
Training costs		
Discretionary (consultants, outside services, materials, etc.)	$18,321	Budget for Client Services support from the KCGIS Center.

5.2.12 DOT – Roads Services Division

Item	Budget	Comments
Labor Costs (salary + benefits)	$425,303	Budget and Technology Manager salary not included. $140,583 for KCGIS Center labor costs.
Hardware (acquisition and maintenance)		
Software (acquisition and maintenance)	$10,000	
Training costs	$5,000	
Discretionary (consultants, outside services, materials, etc.)	$3,000	

5.2.13 DOT – Transit Division

Item	Budget	Comments
Labor Costs (salary + benefits)	$606,104	Operating (3.8 FTE) and Grant (.6 FTE) only; $43,332 estimated grant reimbursement from FTA. $116,231 for KCGIS matrixed labor costs.
Hardware (acquisition and maintenance)	$1,666	$1,666 for KCGIS Matrixed hardware costs.
Software (acquisition and maintenance)	$19,437	Software maintenance on GIS licensing and license monitoring software. $1,437 for KCGIS Matrixed costs.
Training costs	$16,407	Includes GIS local conferences and other technical training. $1,407 for KCGIS Matrixed costs.
Discretionary (consultants, outside services, materials, etc.)	$4,426	Plotter supplies, training manuals, subscriptions, etc. $1,426 for KCGIS Matrixed costs.

5.2.14 DOT – King County International Airport

Item	Budget	Comments
Labor Costs (salary + benefits)	$28,920	Based on 40% of KCIA's PPM II salary + benefits.
Hardware (acquisition and maintenance)		
Software (acquisition and maintenance)		
Training costs		
Discretionary (consultants, outside services, materials, etc.)	$23,808	Budget for Client Services support from the KCGIS Center.

5.2.15 King County Sheriff's Office

- No information submitted.

5.2.16 Metropolitan King County Council

Item	Budget	Comments
Labor Costs (salary + benefits)		
Hardware (acquisition and maintenance)		
Software (acquisition and maintenance)		
Training costs		

Item	Budget	Comments
Discretionary (consultants, outside services, materials, etc.)	$23,064	Budget for Client Services support from the KCGIS Center. Additional funds may be allocated as required by the outcome of the GIS needs assessment.

5.2.17 Office of Budget

Item	Budget	Comments
Labor Costs (salary + benefits)	$64,000	Approximate labor cost for dedicated 0.7 FTE GIS analyst.
Hardware (acquisition and maintenance)	$2,500	Assume half of GIT section office supplies budget for GIS maintenance supplies, plus printer cost.
Software (acquisition and maintenance)		No specific software budget.
Training costs	$900	Approximate half of GIT's 2007 training budget for GIS.
Discretionary (consultants, outside services, materials, etc.)	$30,690	Discretionary budget for KCGIS Center client services.

5.2.18 Department of Community and Human Services

- Plan not submitted in time for first publication. Plan is expected to be provided as an addendum in early 2008.

5.3 Licensing

Software Licensing (counts by agency)	KCGIS Center	Assessments	DDES	DES – EMD	DES – REALS	DES – FMD	DNRP – WTD	DNRP – WLRD	DNRP – PRD	DNRP – SWD	Public Health	DOT – Roads	DOT – Transit	DOT – Airport	KCSO	KC Council	OMB	DCHS
ArcGIS – ArcView	11	16	-	-	-	1	3	15	-	-	6	1	9	1	5	-	3	Plan is expected to be provided as an addendum in early 2008
ArcGIS – ArcEditor	-	-	-	1	-	-	-	-	-	-	-	1	-	-	-	-	-	
ArcGIS – ArcInfo	31	9	4	1	3	-	1	4	-	-	-	4	6	-	-	-	-	
ArcGIS – 3D Analyst	6	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	
ArcGIS – Spatial Analyst	6	-	-	1	-	-	-	-	-	-	-	1	-	-	5	-	-	
ArcGIS – Network Analyst	2	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	
ArcGIS – Geostatistical Analyst	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ArcGIS – Survey Analyst	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ArcGIS – Tracking Analyst	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ArcGIS – Image Analyst	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ArcGIS – COGO	4	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	
ArcGIS – ArcPress	2	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	
ArcGIS – Data Interoperability	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ArcGIS – Publisher	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ArcGIS – Server	3	-	4	14	-	-	-	-	-	-	-	1	1	-	-	-	-	
ArcGIS – Engine	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ArcIMS	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ArcPad	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ArcPad – Application Builder	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	
Maplex for ArcGIS	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ArcView 3.x	22	22	20	2	4	-	~36	30	6	2	4	34	30	-	5	2	2	
MapObjects – Developers Kits	1	1	1	-	-	-	-	-	-	-	-	-	4	-	-	-	-	
MapObjects – Deployments	20	20	-	-	-	-	-	-	-	-	-	-	40	-	-	-	-	

5.4 Maintained Data

5.4.1 KCGIS Center

Enterprise

Layer Name	Description	Update Frequency
BIGWATER_CON	Major waterbodies conflated to PARCEL	As needed
BIKEMET	Bicycle Routes	None planned
BLKGRP00	Census 2000 Block Groups	None planned
BLOCKGRP	1990 Block Groups	None planned
BLOCKNET	Census 1990 Blocks	None planned
BLOCKS00	Census 2000 Blocks	None planned
CANOPY	Forest Canopy	None planned
CONT100	100 Foot contour lines	None planned
CONT20	20 Foot Contour Lines	None planned
CONT50	50 Foot Contour Lines	None planned
CONTOUR005	Five (5) foot-interval index contour isolines - complete county extent	None planned
CONTOUR020C	20 Foot Index Contours - Central Area	As needed
CONTOUR020N	20 Foot Index Contours – North Area	As needed
CONTOUR020S	20 Foot Index Contours - South Area	As needed
CONTOUR020	Twenty (20) foot-interval index contour isolines - complete county extent	None planned
CONTOUR040	40 Foot Index Contours	As needed
CONTOUR050	50 Foot Index Contours	As needed
CONTOUR100	100 Foot Index Contours	As needed
FAZ	1990 Forecast Analysis Zones	Irregular
FIRESTN	Fire Station Locations in King County	As needed
ILLEGAL_LAB_AREA_ VIEW	PARCEL-based spatial view for location and status of illegal drug sites	As needed
KCP_DIST	King County Patrol Districts	As needed
KCP_LOC	King County Police Stations	As needed
KINGCO	King County Political Boundary (no waterbodies)	Irregular
KINGSH	King County/Vashon Island Shoreline	Irregular
KROLLIDX	Kroll Map Page Index	As needed
MTPEAKS	Mountain Peaks with Elevations	None planned

Layer Name	Description	Update Frequency
MUN_WSHD	Municipal Watershed	As needed
NSA	No Shooting Areas	As needed
OPPIPES	Olympic Pipeline	None planned
PARCEL_SALES_3YR_ AREA_VIEW	PARCEL-based spatial view depicting property sales during past 3 years	Weekly
PARCEL_SALES_AREA_ VIEW	PARCEL-based spatial view depicting historic property sales	Weekly
PIN_ADDRESS	PARCEL-based spatial view linking PIN with best available address information	Weekly
PLACE00	2000 Census Places	None planned
PLACE	Census 1990 Places	None planned
PLSS_QTR	Public Land Survey Quarter Sections	None planned
PLSS_SEC	Public Land Survey Sections	None planned
PLSS_TWN	Public Land Survey System Townships	None planned
POINOPUB	Non Public Points of Interest in King County	Irregular
POIPUB	Points of Public Interest in King County	As needed
REG_PSCTR020	Puget Sound 20-Foot Contours	None planned
SCHSITE	King County School Sites	As needed
SENSAREAS_MERGE	Composite of multiple permit-related database layers to facilitate query through web-based mapping applications	None planned
STRZONES	King County Street Directional Zones	As needed
ST_ADDRESS_LINE_ KC_FCC	ST_ADDRESS symbolized for Road Class	Quarterly
ST_ADDRESS	Street address	Quarterly
TAZ00	Census 2000 Traffic Analysis Zones	None planned
TAZ	Census 1990 Traffic Analysis Zones	None planned
THOM_BROS	Thomas Brothers Guide	None planned
THOM_BROS_RC	Thomas Brothers Guide - row/column	None planned
TOPO_BASIN_KC	Topo Drainage for Catchments; Basins; Watersheds; and WRIAs	As needed
TOPO_BASIN	Topo Drainage for Catchments; Basins; Watersheds; and WRIAs	As needed
TOPO_CATCHMENT_KC	Topo Drainage for Catchments; Basins; Watersheds; and WRIAs	As needed
TOPO_CATCHMENT	Topo Drainage for Catchments; Basins; Watersheds; and WRIAs	As needed

Layer Name	Description	Update Frequency
TOPO_WATERSHED_KC	Topo Drainage for Catchments; Basins; Watersheds; and WRIAs	As needed
TOPO_WATERSHED	Topo Drainage for Catchments; Basins; Watersheds; and WRIAs	As needed
TOPO_WRIA_KC	Topo Drainage for Catchments; Basins; Watersheds; and WRIAs	As needed
TOPO_WRIA	Topo Drainage for Catchments; Basins; Watersheds; and WRIAs	As needed
TRACTS00	Census 2000 Tracts	Quarterly
TRACT	Census 1990 Tracts	None planned
WASHCO_AREA_ BOUNDONLY	Generalized representation of Washington state without interior county borders	As needed
WASHCO_LINE_ OUTLINE	Cartographic representation of generalized outline of Washington state	As needed
WASHCO	Washington Counties (no water)	Irregular
WASHSH	Washington Counties with Shoreline	Irregular
WTRBDY_AREA_ BIGWATER	Major open water and double-banked streams and rivers	Quarterly
WTRBDY_AREA_CARTO	Cartographic representation of Open Water features for King County and adjacent areas	As needed
WTRBDY_AREA_ FEAT_TYPE	Open Water symbolized for feature type	As needed
WTRBDY_AREA_ ISLANDS	Marine and Freshwater Islands from WTRBDY_AREA	As needed
WTRBDY_CON	Waterbodies conflated to PARCEL	As needed
WTRBDY	Open water for King County and portions of adjacent counties	Quarterly
WTRBDY_WET	Wetland class excerpted from WTRBDY	None planned
WTRCRS_LINE_RIVERS	Major river subset from WTRCRS_LINE	As needed
ZIPCODE_CR	Zip Code Carrier Routes	As needed
ZIPCODE	Zip Code Carrier Routes	As needed

Table Name	Description	Update Frequency
ADDRDDES	Unincorporated King County parcel addresses business table	Weekly
ADDRKCA	Incorporated areas (cities) parcel address business table	Weekly

Table Name	Description	Update Frequency
ADDRMERGE	Unincorporated King County and incorporated areas (cities) parcel address business table	Weekly
APTCOMPLEX_EXTR	Apartment complex Assessor extract table	Weekly
APTCOMPLEX_ REPORT_VIEW	Tabular view based on Assessor apartment complex property information	Weekly
CITY_CODES_HEALTH	Jurisdictional abbreviation look-up table for web-based mapping support	As needed
COMMBLDG_EXTR	Commercial Building Assessor extract table	Weekly
COMMBLDG_ REPORT_VIEW	Tabular view based on Assessor commercial building property information	Weekly
COMMBLDGFEATURE_ EXTR	Apartment complex Assessor extract table	Weekly
COMMBLDGSECTION_ EXTR	Commercial Building Section Assessor extract table	Weekly
CONDOCOMPLEX_ REPORT_VIEW	Tabular view based on Assessor condominium complex property information	Weekly
CONDOCOMPLEX_EXTR	Condominum complex Assessor extract table	Weekly
CONDOUNIT_EXTR	Condominium Unit Assessor extract table	Weekly
CONDOUNIT_REPORT_ VIEW	Tabular view based on Assessor condominium unit property information	Weekly
IDLINK_BLKGRP_PLACE	Link table relating census block group features with census place name layer	As needed
IDLINK_TRACTS_PLACE	Link table relating census tract features with census place name layer	As needed
ILLEGAL_LAB	Drug laboratory business table related to PARCEL	Daily
JURIS_KCADISTRICT NAME	City name code look-up table	As needed
KCZIPCODE	US Post Office zipcode extract table	Monthly
LOOKUP_EXTR	Record Lookup Assessor extract table	Weekly
PARCEL_EXTR	Parcel Record Assessor extract table	Weekly
PARCEL_HEALTH_VIEW	Tabular view based on PARCEL_EXTR table	As needed
PARCEL_REPORT_VIEW	Tabular view relating PARCEL_EXTR and code look-up table LOOKUP_EXTR	Weekly
PARCEL_SALES3YR_ VIEW	Tabular view relating PIN_ADDRESS and RPSALE_VIEW	Weekly
PARCELLEGALDESC_ EXTR	Parcel Legal Description Assessor extract table	Weekly
PERSONALPROPERTY_ EXTR	Personal property Assessor extract table	Annually

Table Name	Description	Update Frequency
PLATFILE_EXTR	Plat File Assessor extract table	Weekly
PUBHEALTH _INDICATORS	Public health indicator values based on census information for White Center area	As needed
PUBHEALTH_ALL _INDICATORS	Public health indicator values based on census information for White Center area, Blvd Park and Seattle	As needed
PUBHEALTH_BLKGRP_ CONF	Public health indicator values based on census block group data	As needed
PUBHEALTH_BLKGRP_ DATA	Public health indicator values based on census block group data	As needed
PUBHEALTH_PLACE_CI	Public health indicator values based on census place data	As needed
PUBHEALTH_PLACE_NP	Public health indicator values based on census place data	As needed
PUBHEALTH_TRACT_ CONF	Public health indicator values based on census tract data	As needed
PUBHEALTH_TRACT_ DATA	Public health indicator values based on census tract data	As needed
RESBLDG_EXTR	Residential Building Assessor extract table	Weekly
RESBLDG_REPORT_ VIEW	Tabular view based on Assessor residential building property information	Weekly
RPACCT_2005_VIEW	Tabular view based on RPACCT_EXTR table	None planned
RPACCT_EXTR	Real Property Tax Account Assessor extract table	Weekly
RPACCT_MAXBILLYR_ VIEW	Tabular view based on RPACCT_EXTR table	Weekly
RPSALE_EXTR	Real Property Sale Record Assessor extract table	Weekly
RPSALE_VIEW	Tabular view relating RPACCT_EXTR and RPSALE_VIEW	Weekly
SF1_BLK00_H_DAT	Census 2000 Block Level housing data	None planned
SF1_BLK00_P1_DAT	Census 2000 Block Level people data set 1	None planned
SF1_BLK00_P2_DAT	Census 2000 Block Level people data set 2	None planned
SF1_FIELDLIB_DAT	Census 2000 Field Library for SF 1 data	None planned
SF1_GRP00_H_DAT	Census 2000 Block Group Level housing data	None planned
SF1_GRP00_P1_DAT	Census 2000 Block Group level people data set 1	None planned
SF1_GRP00_P2_DAT	Census 2000 Block Group level people data set 2	None planned
SF1_TRT00_H_DAT	Census 2000 Tract level housing data	None planned
SF1_TRT00_P1_DAT	Census 2000 Tract level people data set 1	None planned
SF1_TRT00_P2_DAT	Census 2000 Tract level people data set 2	None planned
SF3_FIELDLIB_DAT	Census 2000 Field Library for SF 3 data	None planned
SF3_GRP00_H_DAT	Census 2000 Block Group level housing data	None planned

Table Name	Description	Update Frequency
SF3_GRP00_P_DAT	Census 2000 Block Group level people data	None planned
SF3_TRT00_H_DAT	Census 2000 Tract level housing data	None planned
SF3_TRT00_P_DAT	Census 2000 Tract level people data	None planned
ST_NAMES	Cross street names business table	As needed
ST_NODE_XY	Cross street XY coordinate business table	As needed
ST_NODES	Cross street node business table	As needed
TABLESTATUS	Non-data view tracking currency of DTS transfers of KCA data to GIS data warehouse	Weekly
WEBLEVYDATA	Levy codes with levy rates	As needed
WEBTOTALLEVY	Levy codes with total levy rates	As needed

Agency

- None.

5.4.2 Department of Assessments

Enterprise

Layer Name	Description	Update Frequency
BOUNDARY	Boundary	As needed
CA1	King County Cadastral Annotation - Part 1 - Southwest King County	Weekly
CA2	King County Cadastral Annotation - Part 2 - City of Seattle adjacent areas	Weekly
CA3	King County Cadastral Annotation - Part 3 - Eastern King County; Island; and portion of northwest King County	Weekly
CITY_ANNEX	King County cities showing pending annexation and annexation history	As needed
CITY2006	Levy areas for city districts	Annually
CITY2007	2007 City Road Levy District	Annually
CITYLEVY	Levy areas for city districts	Annually
FIRE2006	Levy areas for fire districts	Annually
FIRE2007	2007 Fire Levy District	Annually
FIRELEVY	Levy areas for fire districts	Annually
KCACODE	Levy Code	As needed
KCACODE06	Levy Code	As needed
PARCEL	King County Parcels	Weekly

Layer Name	Description	Update Frequency
PLSS	Public Land Survey System	Irregular
PLSS_CORNER	Public Land Survey System grid corners	As needed
ROW	Street right of way	Weekly
SCH2006	Levy areas for school districts	Annually
SCH2007	2007 School Levy District	Annually
SCHLEVY	Levy areas for school districts	Annually

Agency

Name	Description	Update Frequency
ANNO_ LEADERLINES	Leader lines for annotation.	As needed
ANNO_POINTS	Points for block symbols.	As needed
COMAREAS	Commercial Areas	As needed
CONVEYANCE	Platted major number, plats and Donation Land Claim boundaries.	As needed
ENCUMBRANCE	Encumbrances tied to the cadastral Boundary layer.	As needed
QSMAPINDEX	QSTR index for producing quarter-section maps.	As needed
RESAREAS	Residential Areas	As needed

5.4.3 Department of Development and Environmental Services

Enterprise

Layer Name	Description	Update Frequency
AGRPDDST	Agricultural Production District	Irregular
BASIN_CONDITION	Environmental Conditions of Basins	None planned
CHINBUFF	Buffer of Recorded Chinook Distribution in King County	None planned
CITY	King County Incorporated Areas	As needed
CITY_KC	Municipal Jurisdictions derived from citymast.	Irregular
COALMINE	Coal mine hazards	Irregular
CODE_RESTRICTION	Clearing Restriction Areas	Irregular
COLSITE	Sites with Current or Grandfathered Mineral Extraction Rights	As needed
COMMUNITY_PLAN	Community Plan Area	None planned
COMPLU	Current Comprehensive Land Use Plan	Annually

Layer Name	Description	Update Frequency
COMPLU00	Comprehensive Plan Land Use 2000	Annually
COMPLU01	Comprehensive Plan Land Use 2001	Annually
COMPLU02	Comp Plan Land Use 2002	Annually
COMPLU03	Comp Plan Land Use 2003	Annually
COMPLU04	Comp Plan Land Use 2004	Annually
COMPLU05	2005 Comprehensive Plan Land Use	Annually
COMPLU06	COMPLU06	Annually
COMPLU94	Comp Plan Land Use 1994	Annually
COMPLU95	Comp Plan Land Use 1995	Annually
COMPLU96	Comp Plan Land Use 1996	Annually
COMPLU98	Comp. Plan Land Use 1998	Annually
COMPLU99	Comp Plan Land Use 1999	Annually
DEMONSTRATION_ PROJECT	Development condition that modifies base zoning	As needed
ERODE	Erosion Hazards	None planned
FORPDDST	Forest Production Districts	Irregular
GROWTH_PATTERN	County Growth Patterns	As needed
HISTSITE	King County Historic Sites	Irregular
HORSE_COMMUNITY	Equestrian Communities	Irregular
INTRMPAA	Interim Potential Annexation Areas	As needed
KCADDRGRID	KC Addressing Grid	Irregular
MPS	Mitigation Payment System	Irregular
P_SUFFIX	P-Suffix Conditions	Annually
SANT	Sensitive Area Notice on Title Parcels	As needed
SAO_WETLAND	Sensitive Area Ordinance Wetland Areas	As needed
SAOSTREAM	Sensitive Area Ordinance Streams	None planned
SEISM	Seismic Hazards	Irregular
SHORELINE_ CONDITION	Marine Shoreline Environmental Conditions	None planned
SHORELINEMMP	King County Shoreline Management Master Program.	Irregular
SLIDE	Landslide Hazard Areas	None planned
SPEC_DIST_OVERLAY	Special District Overlay	Irregular
SPEC_DRAIN_REQ	Special Drainage Requirements	None planned
SSAQUIF	Sole Source Acquifer	None planned

Layer Name	Description	Update Frequency
TCMZONE	Roads Transportation Concurrency Mitigation Zone	As needed
TRIBAL_LANDS	Tribal Governance Areas	Irregular
UAC	Unincorporated Area Council Boundaries	Irregular
UGLINE00	Urban Growth Line 2000	Annually
UGLINE01	KC Urban Growth Area	Annually
UGLINE02	KC Urban Growth Area	Annually
UGLINE04	2004 Urban Growth Boundary	Annually
UGLINE94	Urban Growth Area 1994	Annually
UGLINE95	Urban Growth Area 1995	Annually
UGLINE96	Urban Growth Area	Annually
UGLINE97	Urban Growth Area 1997	Annually
UGLINE98	Urban Growth Area 1998	Annually
UGLINE99	Urban Growth Line 1999	Annually
UPLOWTRIBBAS	Critical Areas Ordinance Basin Delineations	None planned
URBAN_GROWTH	Current King County Urban Growth Area Boundaries	Annually
URBAN_GROWTH05	2005 Urban Growth Boundary	Annually
WILDNET96	Wildlife Habitat Network	None planned
ZONING	Zoning for unincorporated King County	As needed

Table Name	Description	Update Frequency
CITY_LUT	Jurisdictional abbreviation look-up table	As needed
SAO_WETLAND_HYD	SAO Wetland Hydrology Lookup Table	None planned
SAO_WETLAND_VEG	SAO Wetland Vegetation Lookup Table	None planned
SAO_WETLAND_WLD	SAO Wetland Wilderness Lookup Table	None planned

Agency

Name	Description	Update Frequency
ADDRESS	Table containing addresses for unincorporated King County that are generated by the DDES addressing technicians.	Weekly
AIRPORT	Airport Noise Remedy Program. Created from an old published map, this old version is currently referenced in code.	None planned

Name	Description	Update Frequency
APD95	Archival versions of the Agricultural Production District (APD) as defined by Chapter 3 of the King County Comprehensive Plan (e.g. APD95).	None planned
AQUATIC	Polygons representing maximum stream buffers of Aquatic Areas (primarily streams and water bodies) under the King County Critical Areas Ordinance	Irregular
CAO_DESIGNATION	Polygons representing properties with field checked critical area sketch maps on record.	Monthly
CARDROOM	Points representing operating card rooms in King County as of April 2000	None planned
CDA	Polygons representing Critical Drainage Areas	None planned
CGMAIL	Table of addresses for community groups that get notified when buffered mailing lists are created. Related to COMGROUP below.	As needed
CIA	Polygons used as the basis for all the various CIA_* layers. When those layers are adjusted the CIA polygons are reallocated.	As needed
CIA_BUILD	Polygons representing building inspection areas. Derived from CIA.	As needed
CIA_CLEAR	Polygons representing clearing inspection areas. Derived from CIA.	As needed
CIA_ENFORCE	Polygons representing code enforcement areas. Derived from CIA.	As needed
CIA_GENFORCE	Polygons representing grading enforcement areas. Derived from CIA.	As needed
CIA_GRADE	Polygons representing grading inspection areas. Derived from CIA.	As needed
CIA_LU	Polygons representing land use inspection areas. Derived from CIA.	Monthly
CITYIMP	Polygons representing impact areas (areas of interest) as defined by various cities.	None planned
COMGROUP	Polygons representing the area of interest of community groups who are on record to be notified of certain types of permit activity.	As needed
CP_CENTER	Polygons and Points representing community centers designated under the KC Comp. Plan	As needed
ESA_IA	Polygons representing Environmental Species Act (ESA) inspection areas.	As needed
ESC_IA	Polygons representing erosion and sediment control inspection areas.	As needed
FLOODELEVCERT	Polygons representing parcels with a recorded flood elevation certificate.	Irregular
FPAXXXX	Archival versions of the parcels with Forest Practices Applications in the given year (e.g. FPA1996).	None planned
FPDXX	Archival versions of the Forest Production District in the given year (e.g. FPD95).	As needed

Name	Description	Update Frequency
GWMAREA	Polygons representing ground water management areas.	None planned
HALEKATE	Points representing observed Bald Eagle Nest Points	None planned
HALEPAR	Polygons representing parcels containing observed Bald Eagle Nest Points.	None planned
INTERLOC	Polygons representing DDES interlocal agreements with various cities and agencies.	As needed
JPA	Polygons representing joint planning areas as defined by the King County Comprehensive Plan.	As needed
KCGOVFAC	Points representing government facilities that need to be shown on DDES maps. Notably the Black River facility that houses DDES.	Irregular
LMP	Polygons representing Lake Management Plans	None planned
LPS	Polygons representing Lake Protection Standard Areas	None planned
LU_XXXXX	A series of polygon layers representing Comprehensive Plan land use changes per various King County ordinances. Each layer shows the before and after planned land use for a given ordinance. Layer name provides ordinance number (e.g. LU_11353).	As needed
MDPA	Master Drainage Plans Areas as defined and regulated by the Surface Water Design Manual.	Irregular
MINE_SITES	Points representing mineral resource sites as defined by Chapter 3 of the King County Comprehensive Plan.	As needed
MINEXX	Archival versions of mineral resource sites as defined by Chapter 3 of the King County Comprehensive Plan in the given year (e.g. MINE95).	Yearly
MPS_200403	Archival versions of the Road Mitigation Payment System later, originally effective March 2004.	None planned
MRWATERS	Polygons representing major receiving water bodies as regulated by the Surface Water Design Manual.	Irregular
OPENENF	Points representing open code enforcement cases.	Monthly
OPENLUIS	Points representing open land use inspections.	Monthly
P_XXXXX	A series of region layers representing parcel specific development condition changers per various King County ordinances. Each layer shows the before and after changes to the modified p-suffixes. Layer name provides ordinance number (e.g. P_11353).	As needed
PARCELS.MDB	Parcel specific database for development conditions information.	As needed
PERMPAR	Polygons representing parcels associated with DDES permits. Includes historical parcels that no longer exist.	Monthly
PLATS	Table derived from the DDES permitting system that lists major number and plat name where that is available.`	Monthly

Name	Description	Update Frequency
PWI	Polygons representing Areas of Potential Wetland Influence (300' buffers of SAO Wetlands with KCAWET and the NWI wetlands) under the King County Critical Areas Ordinance.	As needed
RADXX	Archival versions of the Rural Agricultural District in the given year (e.g. RAD95).	None planned
RED_TAILED_HAWK	Points indicating observed Red-Tailed Hawk nests.	As needed
RFDXX	Archival versions of the Rural Forest District in the given year (e.g. RFD95).	As needed
RFFA	Polygons representing the KC Comp. Plan designated Rural Forest Focus Areas	As needed
SCHDST_LUT	Table maintained by DDES to provide the correct text for Fife School District on GISMO parcel info report	As needed
SC-RSRA	Polygons representing Regionally Significant Resource Areas in the Rural portions of the Soos Creek Basin Plan	None planned
SENS_HISTSITE	Polygons representing parcels that contain sensitive officially designated Historic Sites in King County as defined by the King County Historic Resource Inventory. The sensitive sites are kept separate from the other historic sites and not published to shield them from vandalism and other adverse actions.	As needed
SNOWLOAD	Polygons representing ground snow load zones.	As needed
SO_XXXXX	A series of region layers representing special district overlay changers per various King County ordinances. Each layer shows the before and after changes to the modified SDOs. Layer name provides ordinance number (e.g. SO_11353).	As needed
SUBDIV	Polygons representing each recorded plat. Generated by dissolving tax lots on major number.	Irregular
TDR	Polygons representing parcels receiving or sending Transfer of Development Rights (TDR).	As needed
TELECOMM	Points representing telecommunications related permits. Of special interest are cell phone tower permits.	Quarterly
TEN_SPECIES	Points representing nesting sites for ten sensitive species that are protected under the regulations of the King County Critical Areas Ordinance	As needed
URBCENTR	Polygons and Points representing urban centers designated under the KC Comp. Plan	As needed
WHCA_FLAG	Polygons representing buffer distances around species nests that are designated as Wildlife Habitat Conservation Areas under the KC Critical Areas Ordinance	As needed
Z_XXXXX	A series of polygon layers representing zoning changes per various King County ordinances. Each layer shows the before and after zoning for a given ordinance. Layer name provides ordinance number (e.g. Z_11353).	As needed
ZONINGXX	Archival versions of the Zoning at the end of each given year (e.g. Zoning00).	Yearly

5.4.4 DES – Emergency Management Division

Enterprise

Layer Name	Description	Update Frequency
E911_ESN	Emergency Service Areas	Annually
ESITES	E-911 Address Points	As needed

Agency

Name	Description	Update Frequency
PSAP ROADS LAYER	New roads collected during site address verification process, will be passed on to the TNET.	As needed

5.4.5 DES – Records, Elections, and Licensing Services Division

Enterprise

Layer Name	Description	Update Frequency
AIRDST	King County Airport District	As needed
CEMDST	King County Cemetery District	As needed
CITYDST	Incorporated Areas of King County	As needed
CONGDST	2002 Congressional Districts in King County	As needed
DIRDST	Seattle School Board Director Districts	As needed
DSTCODE	District Codes	As needed
FIRDST	Fire Protection Districts of King County	As needed
HSPDST	Hospital Districts	As needed
JUDDST	King County District Courts	As needed
KCCDSTWTR	Metropolitan King County Council Districts (inclusive of major water bodies)	As needed
KCCDST	Metropolitan King County Council	As needed
LEGDST	2002 Legislative Districts of King County	As needed
LIBDST	King County Rural Library District	As needed
MS1DST	Miscellaneous 1 Districts	As needed
MS2DST	Miscellaneous 2 Districts	As needed
MUNDST	Municipal Districts	As needed
PRKDST	Park and Recreation Districts	As needed
RTADST	Regional Transit District	As needed
SCHDST	School Districts in King County	As needed

Layer Name	Description	Update Frequency
SWRDST	Sewer Districts	As needed
VOTDST	Voting Districts of King County	As needed
WSDST	Water and Sewer Districts of King County	As needed
WTRDST	Water Districts of King County	As needed

Agency

Name	Description	Update Frequency
COMBO	Unique Ballot style	As needed
LEVY	Minor taxing district assignment	As needed
POLLPOINT	Election polling place assignment	As needed
PRECINCT	Voting precinct assignment	As needed
ROUTE	Election supply delivery routes	As needed
STREETSEG	Street centerline master address file (MAF)	Continually
ZONE	Election day trouble shooter assignments	As needed

5.4.6 DES –Facilities Management Division

Enterprise

Layer Name	Description	Update Frequency
REALPROP_AREA_VIEW	King County Real Property	Quarterly

Table Name	Description	Update Frequency
REALPROP_DAT	King County Property Interests Table	Quarterly

Agency

Name	Description	Update Frequency
REPMS	Real Estate Portfolio Management System database contents pertaining to County owned parcels, easements, leases (leasehold and lease fee), and some permits.	Daily

5.4.7 DNRP – Wastewater Treatment Division

Enterprise

Layer Name	Description	Update Frequency

Layer Name	Description	Update Frequency
FACILITY	Wastewater Treatment Facilities of King County	As needed
PLANT	Wastewater Treatment Plants for King County and Other Sewer Agencies	As needed
SEWER	Wastewater Conveyance for King County	As needed
SITE_PLAN	Facility footprints	As needed
WTDBSN	Wastewater Treatment Division Sewer Basins	As needed
WTDFLOW	Wastewater Treatment Division Sewer Basin Flow Direction	As needed
WTDSERV	Wastewater Treatment Division Service Area	As needed
WTRSAMP	Water Sampling sites	Irregular

Table Name	Description	Update Frequency
LOCATOR_ATTR	Sampling location information	As needed

Agency

Name	Description	Update Frequency
CED_CON	Contours in 20-foot increments for southwest Snohomish County.	None Planned
CEDSLOPE	Steep Slopes by southwest Snohomish County contour area.	None Planned
CESLOPE	Steep Slopes by King County Cedar River contour area.	None Planned
CSO	Combined Sewer Overflow discharge locations.	As needed
CSOBSN	Basins used for modeling CSOs and CSO Projects.	As needed
CWSLOPE	Steep Slopes by King County Lake Washington contour area.	None Planned
FLOWMNTR	Contains depictions current and historic monitors used in a variety of projects from day to day system flow monitoring to I/I project monitoring.	As needed
GESLOPE	Steep Slopes by King County Soos Creek contour area.	None Planned
GWSLOPE	Steep Slopes by King County Duwamish/Green River contour area.	None Planned
LOCALLN	Contains depiction of local sewer pipes with available attribute information	As needed
LOCALMH	Contains depiction of local sewer facilities with available attribute information	As needed
LSKA_CON	Contours in 20-foot increments for northwest Snohomish County.	None Planned

Name	Description	Update Frequency
LSKASLOPE	Steep Slopes by northwest Snohomish County contour area.	None Planned
MDLBSNXX	Basins developed for WTD modelers through the Inflow and Infiltration project based on 2000 or 2001data. MDLBSN02 shows proper depiction of Redmond area basins.	As needed
MNIBSNXX	Basins developed for flow monitoring efforts through the Infiltration and Inflow project based on 2000 and 2001data. MNIBSN02 shows proper depiction of Redmond area basins.	As needed
NPSLOPE	Steep Slopes by northwest King County contour area.	None Planned
POSSIBLE END USER	Layer file derived from a Geodatabase showing parcels of agencies who may be interested in using reclaimed water. Will be transferred from agency development library in 2008.	As needed
RAINGAGE	Contains depictions of WTD and Water and Land Resources rain gages.	As needed
RWSPBSN	Basins used by WTD to plan and manage wastewater flow as used in the Regional Wastewater Service Plan until 2003. This has been superseded by WTDBASIN.	As needed
S1SLOPE	Steep Slopes by King County Duvall contour area.	None Planned
S2SLOPE	Steep Slopes by King County North Fork Tolt River contour area.	None Planned
S3SLOPE	Steep Slopes by King County Snoqualmie contour area.	None Planned
S4SLOPE	Steep Slopes by King County Middle Fork Snoqualmie River contour area.	None Planned
SASLOPE	Steep Slopes by King County Sammamish contour area.	None Planned
SC_TOPOINDX	Snohomish County contour layer index.	None Planned
SERVAREA_DISS	WTD service area boundary.	As needed
SLOPE_INDX	Steep slope layer index.	None Planned
SNBA_CON	Contours in 20-foot increments for central and southeast Snohomish County.	None Planned
SNBASLOPE	Steep Slopes by central and southeast Snohomish County contour area.	None Planned
SPSLOPE	Steep Slopes by King County Duwamish River West Bank contour area.	None Planned
STILL_CON	Contours in 20-foot increments for Snohomish County Stilliguamish River area.	None Planned
STILLSLOPE	Steep Slopes by Snohomish County Stilliguamish River contour area.	None Planned

Name	Description	Update Frequency
SWR_AGEN	A depiction of the sewer agencies that provide flow to WTD. This dataset is for cartographic and planning purposes only and does not show individual service areas or district boundaries. It should not be confused with SEWER_DIST maintained by Records and Elections.	As needed
SWRLNDXX	Areas of sewered land delineated using local line sewer location and account information, air photos, and parcel lines	As needed
UGACOMBO	Polygon showing Urban Growth Area (UGA) for King County and Snohomish County. Combined 2002 King County UGA data and 2000 Snohomish UGA data.	As needed
USKA_CON	Contours in 20-foot increments for Snohomish County Glacier Peak area.	None Planned
USKASLOPE	Steep Slopes by Snohomish County Glacier Peak contour area.	None Planned
VASLOPE	Steep Slopes by King County Vashon Island contour area.	None Planned
WRSLOPE	Steep Slopes by King County White River contour area.	None Planned
WTD_HCP	WTD Habitat Conservation Plan Boundary.	As needed
WTDBSN	WTD sewer basins- RWSP basins with revised boundaries to match the updated service area boundary.	As needed

5.4.8 DNRP – Water and Land Resources Division

Enterprise

Layer Name	Description	Update Frequency
AG_LANDUSE_GENL03	2003 Generalized Agricultural Land Use	None planned
AG_LANDUSE01	2001 Agricultural Land Uses	None planned
AG_LANDUSE06	Agricultural Land Use 2006 for Ag. Production Districts and Vashon	None planned
ASGWC	Areas Susceptible to Groundwater Contamination	As needed
CARA	Critical Aquifer Recharge Areas	None planned
CHNLMIGR	River Channel Migration Areas (selected)	As needed
CITY_3CO	Incorporated areas of King; Snohomish; and Pierce Counties	As needed
DRAINAGE_COMPLAINT	Drainage Complaints	Weekly
DRNBASIN	Drainage Basins for King County and Snohomish	As needed
DRNSTUDY	Stormwater Drainage Studies	Irregular
FARMLAND	Farmland Preservation Program Properties	As needed

Layer Name	Description	Update Frequency
FLDPLAIN	Floodplain	As needed
FLOODWAY	Floodway	As needed
GWMA	Groundwater Management Areas	None planned
GWSOURCE	Groundwater Sources	Weekly
HYDROBASIN	Major hydrological drainage basin – HYDROBASIN	None planned
HYDROGAUGE	King County Hydrological Monitoring Gauges	Weekly
KCWHPA_10YR	Wellhead Protection Areas - Ten Year Time of Travel	None planned
KCWHPA_1YR	Wellhead Protection Areas - One Year Time of Travel	None planned
KCWHPA_5YR	Wellhead Protection Areas - Five Year Time of Travel	None planned
KCWHPA_6MO	Wellhead Protection Areas - Six Month Time of Travel	None planned
NDA	Neighborhood Drainage Projects	Irregular
PARCEL_ECOVALUE_ AREA_VIEW	Greenprint Conservation Values By Ecological Program	As needed
PARCEL_FARMVAL_ AREA_VIEW	Greenprint Conservation Values By Farmland Program	As needed
PARCEL_FLOODVAL_ AREA_VIEW	Greenprint Conservation Values By Flood Program	As needed
PARCEL_FORESTVAL_ AREA_VIEW	Greenprint Conservation Values By Forest Program	As needed
PARCEL_SWM_DATA_ AREA_VIEW	Surface Water Management Fee Spatial View	As needed
PUBLIC_LANDS	Publicly Owned Lands	Quarterly
SALMON_WATCHER	Salmon Watcher Program Monitoring Locations	Annually
SALMONW_BASINS	Salmon Watcher Program Basins	None planned
SMP_ACCESS	Shoreline Public Access	None planned
SMP_ACCESS_ PRIORITIES	SMP - Public Access Priorities	None planned
SMP_DESIGNATIONS	SMP Environment Designations – Draft	None planned
SMP_FINAL	Final Ecological Processes Reach Quality	None planned
SMP_JURISDICTION	Shoreline Master Program Jurisdiction in King County	None planned
SMP_LIGHT	Light Energy Reach Quality	None planned
SMP_LWD	Large Woody Debris Reach Quality	None planned
SMP_NITRO	Nitrogen Reach Quality	None planned
SMP_PATH	Pathogen Reach Quality	None planned
SMP_PHOS	Phosphorus Reach Quality	None planned

Layer Name	Description	Update Frequency
SMP_REACHES	Shoreline Master Program Reaches in King County	None planned
SMP_REACHES_AREA_ REACHTYPE	Shoreline Master Program Reaches and Restoration Priorities in King County - Reach Type Layer	As needed
SMP_REACHES_AREA_ RESTORATION	Shoreline Master Program Reaches and Restoration Priorities in King County - Reach Restoration Priority Layer	As needed
SMP_SEDIMENT	Sediment Reach Quality	None planned
SMP_SHORELINE_ FACILITIES	Shoreline Facilities	None planned
SMP_SSSHORELINE	Shorelines of Satewide Significance in King County	None planned
SMP_TIDAL	Tidal Influence Reach Quality	None planned
SMP_TOXINS	Toxins Reach Quality	None planned
SMP_WATER	Hydrologic Cycle Reach Quality	None planned
SMP_WAVE	Wave Energy Reach Quality	None planned
SNOQ_OBLIQUE	Snoqualmie River Oblique Photos	None planned
STORM_FAC	Residential and Commercial Stormwater Facilities	Weekly
STORMREG	Regional Stormwater Facilities	Irregular
SWDM_FLOW	2005 SWDM Flow Control Applications Designations	None planned
SWDM_LH_DA	2005 SWDM Landslide Hazard Drainage Areas Designations	None planned
SWDM_WQ	2005 SWDM Water Quality Applications Designations	None planned
SWES_PROJ	KC DNRP WLRD Capital Projects and Open Space Acquistions Section projects	Annually
WATERSHED	Watershed Hydrological Basin Boundaries	None planned
WEEDS	Noxious Weeds Survey Sitings	Annually
WRIA	Hydrological WRIA Boundaries	None planned
WRIA9_PROJECTS	Water Resource Inventory Area 9 Salmon Habitat Projects	Weekly
WTR_SERV	Water Service Agencies service areas	None planned
WTRCRS	Streams and Rivers	Quarterly

Table Name	Description	Update Frequency
GP_ECO_VALUES	Greenprint Conservation Values By Ecological Program	As needed
GP_FARM_VALUES	Greenprint Conservation Values By Farm Program	As needed
GP_FLOOD_VALUES	Greenprint Conservation Values By Flood Program	As needed
GP_FOREST_VALUES	Greenprint Conservation Values By Forest Program	As needed

Table Name	Description	Update Frequency
GW_BASIN_CODE	Basin Codes Data Table	Annually
GW_CARA_CODE	CARA Codes Data Table	Annually
GW_DATA_SOURCE	Data Source Data Table	Annually
GW_GWMA_CODE	GWMA Codes Data Table	Quarterly
GW_LOC_SOURCE	Location Sources Data Table	Annually
GW_LOC_TYPE	Location Type Data Table	Annually
GW_PRIMARY	Groundwater Sources Primary Data Table	Weekly
GW_QS	Quarter Section Data Table	Annually
GW_SOURCE_ PRIMARY_VIEW	Groundwater Source Locations Data Table	Weekly
GW_WL	Water Level Data Table	Annually
GW_WL_MEAS_CODE	Measurement Codes Data Table	Annually
GW_WQ	Water Quality Data Table	Weekly
GW_WQ_DT_TASK	Sampling Dates Data Table	Weekly
GW_WQ_RT_ANALYTE	Water Quality Analyte Data Table	Annually
GW_WQ_RT_ANALYTE_ TYPE	Water Quality Analyte Type Data Table	Annually
GW_WQ_RT_QUALIFIER	Qualifier Data Table	Annually
GW_WQ_RT_SAMPLE_ TYPE	Sample Type Data Table	Annually
GW_WQ_RT_UNIT	Measurement Units Data Table	Annually
GW_WQ_SAMPLE_ID	Sampling Info Data Table	Weekly
SWM_DATA_TABLE	Surface Water Management Fee Data Table	Weekly

Agency

Name	Description	Update Frequency
APD_RIPAR100	APD Riparian Condition Units - 100 ft stream buffers	None planned
APD_RIPAR25	APD Riparian Condition Units - 25 ft stream buffers	None planned
BATH_TOPO	Puget Sound Bathymetry	None planned
BEAR_LOCS	Bear Sighting Locations	None planned
BUGS_MAA	Benthic Macroinvertebrate Sampling Sites	None planned
CAO_AQUATIC	Critical Areas Ordinance Aquatic Buffer Zones	None planned
CAO_BASINS	Critical Areas Ordinance	None planned
CONTOUR40	King County Contours - 40'	None planned

Name	Description	Update Frequency
COSTSHARE	Cost-Share Parcels	As needed
CUT_AG	Current Use Taxation Program: Agricultural Properties	As needed
CUT_FOREST	Current Use Taxation Program: Forestry Parcels	As needed
CUT_PBRS_TIM	Public Benefit Rating System and Timber Land Program Parcels	As needed
DAIRIES	Dairies and Commercial Agricultural Operations	As needed
DRAINAGE_PROP	King-County Owned Drainage Properties	As needed
FARMPLAN	Parcels with Farm Plans	As needed
FCZD	Green River Flood Control Zone	None
FISH7	Fish distribution in WRIA 7	None planned
FISH7_PT	Fish distribution in WRIA 7, shapefile points	None planned
FISH7_SOURCE	Fish Distribution (WRIA 7) Source Table	None planned
FISH8	Salmon Distribution (WRIA 8)	None planned
FISH8_PT	Salmon Observation Locations (WRIA 8)	None planned
FISH8_PT_DAT	Salmon Observations Data Table (WRIA 8)	None planned
FISH9	Distribution of 7 salmon species in WRIA 9 streams	None planned
FISH9_PT	Point observations of 7 salmon species in WRIA9	None planned
FISHV	Distribution of 5 salmon species in Vashon streams	As needed
FISHV_PT	Point observations of 5 salmon species on Vashon.	None planned
FLOOD_PROP	Flood Hazard Reduction Section Flood Buyout Parcels	As needed
FTA	Forestry Technical Assistance	As needed
GREEN_HIST	Historical Green River	None planned
JURIS00	Incorporated Cities Year 2000	None planned
JURIS90	Incorporated Cities Year 1990	None planned
LIVESTOCK_VFD	Verified Livestock Parcels	As needed
LKSAMBATH	Lake Sammamish Bathymetry	None planned
MAJ_STRM	Major Streams and Rivers, a sub-set of WTRCRS	As needed
MCGARVEY_OS	4:1 Parcels in the Cedar River Basin	As needed
PARCEL_DATA	Enterprise PARCEL data layer with additional attributes	Quarterly
POLYGON_OS	4:1 Parcels in the Cedar River Basin	As needed
PS_BATH10	Puget Sound Bathymetry - 10 Foot Contours	None planned
PS_BATH20	Puget Sound Bathymetry - 20 Foot Contours	None planned
PS_BATH5	Puget Sound Bathymetry - 5 Foot Contour	None planned

Name	Description	Update Frequency
RDP_BND	Rural Drainage Program Service Areas	As needed
RFFA	Rural Forest Focus Areas (as adopted in 2001 Comp. Plan)	As needed
RIVER_MI	River Miles derived from WTRCRS	As needed
RIVERFAC	King County River Facilities	As needed
SWDM_BOGS	2005 Surface Water Design Manual Bog Wetlands	None planned
TAYLOR_STANDS	Forest Stands on Taylor Mountain	As needed

5.4.9 DNRP – Parks and Recreation Division

Enterprise

Layer Name	Description	Update Frequency
COMM_NAMES	King County Parks Community Areas	As needed
MAINTDIST	King County Parks Maintenance District Boundaries	As needed
PARK	Parks in King County	As needed
PARK_FACILITY	Parks Facilities in King County	As needed
PARK_INFO_AREA_ VIEW	King County Parks Information	As needed
PARK_PROPERTY	King County Parks Property Interests	As needed
RESOCOORD	King County Parks Resource Coordinator Boundaries	As needed
TRAIL	Trails in King County	As needed

Table Name	Description	Update Frequency
PARK_INFO_TABLE	King County Parks Information Table	As needed

Agency

Name	Description	Update Frequency
FUTURE_REGIONAL_ TRAILS	Potential Future Regional Trails in King County	As Needed

5.4.10 DNRP – Solid Waste Division

Enterprise

Layer Name	Description	Update Frequency

SW_FACILITIES	Solid Waste Disposal Facilities	As needed
SW_FACILITIES_PROP	Solid Waste Disposal Facility Properties	As needed

Agency

Name	Description	Update Frequency
BROWNFIELDS_ SITES	Location of sites that are contaminated and may need assessment assistance to improve their marketability or redevelopment potential. These sites are part of the Brownfields Program.	As needed
CEDAR_HILLS_ PROPERTY_SALES	Sales of property within the legally-mandated notification zone surrounding the Cedar Hills Regional Landfill, obtained from records of the King County Department of Assessments.	Quarterly
CLCP_SITES	Sites of cleanup events conducted under the Community Litter Cleanup Program.	Quarterly
PRIV_SVC_AREAS	Current boundaries of the service areas of private waste hauling companies within King County.	As Needed
RECYCLING_FACILITIES	Point locations of private recycling companies within King, Snohomish, and Pierce counties.	As Needed

5.4.11 Department of Public Health

Enterprise

Layer Name	Description	Update Frequency
HOSPITALS	Hospitals with Trauma Level	Annually
MEDIC_UNITS	Major Potential Annexation Areas	As needed
PH_CLINICS	Public Health Clinics	As needed

Table Name	Description	Update Frequency
OSS_ASBUILT	Sewer System As-Built Drawings look-up table	As needed

Agency

Name	Description	Update Frequency
GEOCODES	King County EMS Geocode Grid	As Needed

5.4.12 DOT – Roads Services Division

Enterprise

Layer Name	Description	Update Frequency
ST_CRIS	County Road Inventory System - Street Centerlines	Monthly
TRANS_NEED	Transportation Needs Points and Lines	As needed

Agency

Name	Description	Update Frequency
3P	Line shapes showing King County wide proposed pedestrian improvement projects.	Monthly
ADOPT	Line shapes representing the adopted sections of King County roadways countywide.	Annually
BRIDGES	Point shapes representing King County-maintained Bridges.	Annually
BURKEBLUEPOLY	Heretofore unrecorded archaeological sites for King County.	As needed
BURKEGRAYPOLY	Heretofore unrecorded archaeological sites for King County.	As needed
CATCH BASIN	Point shapes representing location of drainage catch basins.	As needed
CIPPATH	Line shapes representing King County Capital Improvement Sub-Projects.	Daily
CIPPLINE	Line shapes representing King County Capital Improvement Projects.	Daily
CIPPOINT	Point shapes representing King County Capital Improvement Projects.	Daily
CLP	Recorded Cultural Resources managed by Seattle Public Utility (SPU)	As needed
COUNT_DATA	Point shapes representing Countywide year 2005-1995 Historical Count Locations w/data attached.	Annually
COUNT_LOCATIONS	Point shapes representing RSD Traffic Section Historical Count Locations w/o data attached.	Annually
CRREPORTS	Areas of previous cultural resource surveys	None planned
CULVERT	Point shapes representing end points of the PIPE data layer by basin to support NPDES.	As Needed
DITCHES	Line shapes representing location and flow direction of ditches by basin to support NPDES.	As Needed
FREIGHT_GOODS	Line shapes representing routes designated by the state as roadways that carry freight and goods.	Annually
GLOETHNOTRAIL	Cultural features digitized from Government Land Office (GLO) maps for use as shape files (feature data sources).	None planned
GLOETHPOLY	Cultural features digitized from GLO maps for use as shape files (feature data sources)	None planned

Name	Description	Update Frequency
GLOHISTPOLY	Cultural features digitized from GLO maps for use as shape files (feature data sources)	None planned
GLOHISTPT	Cultural features digitized from GLO maps for use as shape files (feature data sources)	None planned
GLOHISTRD	Cultural features digitized from GLO maps for use as shape files (feature data sources)	None planned
GUARDRAIL	Line shapes representing the King County Inventory of Countywide guardrail.	Monthly
HALS	Point shapes representing King County Countywide High Accident Locations.	Annually
HARS	Line shapes representing King County Countywide High Accident Roadways.	Annually
HIST_ARCH	Recorded historic archaeological sites for King County.	Quarterly
KGCO_DS	Soils data for King County. Seamless soils shapefile for entire county.	None planned
LAASETHNSP	Ethnographic place names for King County.	None planned
LAASTCPSP	Areas of traditional cultural and religious significance for Native American groups in King County	None planned
LANDFORM	Paleo-landscape features (late Pleistocene and Holocene)	None planned
LIFELINE	Line shapes representing Lifeline Routes; it is a cooperative venture between the Federal Emergency Management Agency (FEMA) and King, Pierce, Kitsap, and Snohomish Counties. Its goal is the identification and coordination of lifeline routes between and among state, County, and local emergency managers.	None planned
NEP	Line shapes representing King County Countywide Neighborhood Enhancement Projects.	Monthly
OUTFALL	Point shapes representing departure or jurisdiction location of surface water from related drainage objects.	As Needed
PATHWAY	Line shapes representing Countywide School Pathway Projects.	Monthly
PIPE	Line shapes representing drainage pipes.	As Needed
PREHIST_ARCH	Recorded prehistoric archaeological sites for King County.	Quarterly
RD_BA	Point shapes representing RSD Environmental Unit's biological assessments.	Monthly
RD_EIS	Point shapes representing RSD Environmental Unit's impact statements.	Monthly
RD_PROP	Point shapes representing RSD-owned properties.	Monthly
SIGNALS	Point shapes representing King County wide maintained signals.	Quarterly

Name	Description	Update Frequency
STRIPING	Line shapes representing installation and maintenance of Traffic Section maintained roadway marking features.	Annually

5.4.13 DOT – Transit Division

Enterprise

Layer Name	Description	Update Frequency
BENSON_LINE _STATIONS	The George Benson Waterfront Streetcar Stations	As needed
BUSSTOP	Metro Transit Bus Stops	Daily
BUS_BASES	King County Metro Bus Bases	As needed
EMITTER	Automated Vehicle Locator	Daily
FAREZONE	Transit fare zones	As needed
LANDMARK	Landmarks	As needed
NEIGHBORHOOD_ CENTERS	King County Neighborhood Centers	As needed
NEIGHBORHOOD	King County Neighborhood Areas	As needed
PARKRIDE	King County Metro Park and Ride Lots	Quarterly
RIDE_FREE_BOUNDARY	Metro Transit Ride Free Boundary as defined by Transportation Network (TNET)	As needed
ROUTES	Metro Transit Revenue Service Routes as defined by Transportation Network (TNET)	Daily
SUB_STATIONS	Rectifiers/Sub Stations	Annually
TIMEPOINT	Metro Transit Route Timepoints	Daily
TPIPATH_DHD_CUR	Metro Transit Deadheads (Non Revenue Service Routes)	Daily
TPIPATH_REV_CUR	Metro Transit Revenue Service Routes as defined by Transportation Network (TNET)	Daily
TRANSIT_CENTERS	King County Metro Transit centers	As needed
TRANSIT_FACILITIES	King County Metro Transit facilities	Irregular
TRANSIT_PLANNING_ BOUNDARIES	King County Metro Transit Boundaries	As needed
TRANS_NETWORK	King County Transportation Network (TNET)	Daily
TROLLEY	Overhead trolley line	Annually
TUNNEL	Metro Transit Tunnels & Tunnel Stations	Irregular

Table Name	Description	Update Frequency
LANDMARK_ALIAS	Landmark_Alias	As needed
SERVICE_PATTERN _TIMEPOINT	Metro Transit Service Pattern Timepoint Table	Weekly
TRANS_TLINK_TMODE	King County Transportation Network (TNET) Modes	Daily

Agency

Name	Description	Update Frequency
ACCIDENT	Point shapes representing transit accident locations. ACCIDENT attributes include date, time, status, reviewed, road conditions, weather, judgment, severity, route and vehicle characteristics, FTA codes, on street, and cross street.	Daily
ACTIVESTOPS	Point shapes representing active Transit bus stops derived from TNET as a distance from an intersection along a link.	Daily
AIRPORTS	Polygon features representing local and regional airports.	Annually
CLOSEDSTOPS	Point shapes representing closed Transit bus stops derived from TNET as a distance from an intersection along a link.	Daily
COMFORT_ STATIONS	Point shapes representing transit comfort stations (driver restroom facilities). COMFSTN attributes include owner and contact information, availability during the day, routes that have access on street, cross street, and address.	Monthly
DART	Polygon shapes representing Dial-a-Ride service area for Transit.	Quarterly
EMITTER_APC	Point shapes representing Transit radio frequency emitters derived from EMITTER. These points may have a different location from the physical emitter location to facilitate Automatic Passenger Counter system processing.	Daily
EMITTER_AVL	Point shapes representing Transit radio frequency emitters derived from EMITTER. These points may have a different location from the physical emitter location to facilitate Automatic Vehicle Location system processing.	Daily
FAREZONE	Polygon shapes representing Transit fare zones for King County Metro, Community Transit, Pierce County Transit, and Sound Transit.	Annually
INACTIVESTOPS	Point shapes representing inactive Transit bus stops derived from TNET as a distance from an intersection along a link.	Daily
INCIDENT	Point shapes representing transit security incidents. INCIDENT attributes include date, route characteristics, on street, cross street, and items describing the incident type.	Daily
PENDINGSTOPS	Point shapes representing pending Transit bus stops derived from TNET as a distance from an intersection along a link.	Daily
PLANNEDSTOPS	Point shapes representing planned Transit bus stops derived from TNET as a distance from an intersection along a link.	Daily

Name	Description	Update Frequency
SERVGRID	Polygon shapes representing a simple Transit service grid used on the Web for users to pick an area of interest. Information about the Transit service in that grid is provided.	As Needed
SERVGRID	Polygon shapes representing a simple Transit service grid used on the Web for users to pick an area of interest. Information about the Transit service in that grid is provided.	As Needed
SERVICE_QUALITY_ DISTRICTS	Polygon features representing King County Metro Service Quality dispatch districts.	As Needed
ST_LINK_LIGHT_RAIL	Line features representing Sound Transit Link light rail routes obtained from Sound Transit.	Quarterly
ST_LINK_LIGHT_RAIL_ STATIONS	Polygon features representing Sound Transit Link light rail stations obtained from Sound Transit.	Quarterly
ST_REGIONAL_EX_ BUS_ROUTES	Line features representing Sound Transit regional express bus routes obtained from Sound Transit.	Quarterly
ST_SOUNDER_ COMMUTER_RAIL_ STATIONS	Point features representing Sound Transit Sounder commuter rail stations obtained from Sound Transit.	Quarterly
ST_SOUNDER_ COMMUTER_RAIL	Line features representing Sound Transit Sounder commuter rail routes obtained from Sound Transit.	Quarterly
TPIPATH_DHD_ALL	Line shapes representing Transit non-revenue service route footprint for all historical transit service changes. These shapes are derived from TNET as an ordered set of links.	Daily
TPIPATH_DHD_NXT	Line shapes representing Transit non-revenue service route footprint for the following (next) transit service change. These shapes are derived from TNET as an ordered set of links.	Daily
TPIPATH_REV_ALL	Line shapes representing Transit revenue service route footprint for all historical transit service changes. These shapes are derived from TNET as an ordered set of links.	Daily
TPIPATH_REV_NXT	Line shapes representing Transit revenue service route footprint for the following (next) transit service change. These shapes are derived from TNET as an ordered set of links.	Daily
TRANS_POINT	Point shapes representing intersections of line shapes. TRANS_POINT attributes include transit timepoint key and X/Y coordinates.	Daily
TRANSIT_POLICE_ DISTRICTS	Polygon features representing King County Metro Police patrol districts.	As Needed
XFERZONE	Point features representing bus stops that are within 100 feet of another stop on a different major route. This data is utilized by the Automated Trip Information System to aid trip planning.	Daily
ZONES	Point shapes representing all active and inactive Transit bus stops derived from TNET as a distance from an intersection along a link.	Daily

5.4.14 DOT – King County International Airport

Enterprise

- None.

Agency

- None.

5.4.15 King County Sheriff's Office

Enterprise

- None.

Agency

Name	Description	Update Frequency
PATROL DISTRICTS	A shape file that is based on the Reporting Districts file. A patrol district consists of one or more reporting districts. A patrol district is the primary level of geography defined/used by the reactive patrol portion of the Sheriff's Office.	As needed
REPORTING DISTRICTS	Also called Reporting Areas - a shape file that is an important component of the department's Computer Aided Dispatch (CAD) system. A reporting area is the smallest formally defined geography used by the Sheriff's Office and is a subset of a Patrol District (see below).	As needed

5.4.16 Metropolitan King County Council

Enterprise

- The GIS program for the Metropolitan King County Council does not include activity in this area.

Agency

- The GIS program for the Metropolitan King County Council does not include activity in this area.

5.4.17 Office of Budget

Enterprise

Layer Name	Description	Update Frequency
MAJORPAA	Major Potential Annexation Areas	As needed
REC_LOTS	Recorded Lots for current year	Annually
REC_LOTS06	Recorded Lots for 2006	None planned
UNINCBLDGPERMITS	Unincorporated King County Building Permits for Current Year	Annually
UNINCBLDGPERMITS06	Unincorporated King County Building Permits for 2006	None planned

Agency

- None.

5.4.18 Department of Community and Human Services

- Plan not submitted in time for first publication. Plan is expected to be provided as an addendum in early 2008.

5.5 Maintained Applications

5.5.1 KCGIS Center

Name	Description	Language
AvLibShp and *AvLibImg*	These ArcView 3.x extensions provide users with streamlined methods to access and display layers in the KCGIS Spatial Data Warehouse (SDW). In 2004 the *AvLib* application was split into two separate but complimentary extensions in order to make potential future updates easier to distribute. *AvLibShp*, the KC Shapefile Library extension, enables users to: browse spatial data layers by subject and feature type, with data layers identifiable by alias, filename, or description; add themes to a map view and automatically set various theme properties, such as symbology; link data to metadata via an HTML browser; load a standard view from a library of user defined views; store a map view locally or submit a view to the KCGIS SDW so that other users may access it; and generate maps using standard layouts. *AvLibImg*, the KC Image Library extension, enables access to image data by providing the user with menu choices and tools for one click access to any image data on the system. These extensions are in a maintenance phase and will only by updated in 2007 as needed to keep the extensions operable.	Avenue
KC Parcel Tools	The *KC Parcel Tools* extension will become obsolete once RECDNET is no longer maintained or stored on \\wildfire. This ArcView 3.x extension provides users with an easy to use interface to selected Assessor's data in the KCGIS Spatial Data Warehouse. There are five main functions of this application, which include: queries based on a known PIN or taxpayer name; information lookups on previously selected parcels; access to the cadastral base framework LIBRARIAN tiles with tools for loading and managing arc and annotation features; generating quarter section maps of cadastral base framework data with minimal user input; and generating formatted mailing labels for selected parcels. This extension reads tabular data from the SQL Server database and accesses shapefiles from \\gisdw\kclib\plibrary2. RECDNET tiles (coverage format) are still accessed directly from \\wildfire. This extension will become obsolete in early 2007 when RECDNET is no longer maintained or stored on *WILDFIRE*.	Avenue
iMAP	*iMAP* is a Web-based map viewer that provides online access to map layers and other related information. This map viewer generally requires a broadband Internet connection. Data are grouped into Map Sets that present data from different subject areas. At the end of 2006 there are 9 map sets. *iMAP* includes a property search tool that is fully integrated with the basic application and thus accessible in all Map Sets. A variety of other data query tools are also part of the standard *iMAP* user toolbox, including buffering, geocoding, and more. When a parcel is selected, URL links are presented, which access a variety of tabular information maintained by several King County agencies. A map output function is also included. The URL for *iMAP* is http://www.metrokc.gov/gis/mapportal/iMAP_main.htm.	ArcIMS, HTML, JavaScript, XML

Name	Description	Language
Parcel Viewer	*Parcel Viewer* is a Web-based application targeting property searches. This application does not require a fast Internet connection. Users can navigate the map and select parcels, or search for properties using address, cross streets, or parcel number as input. Buffering and map output features are also included. Like *iMAP*, when a parcel is selected URL links are presented to access a variety of tabular reports. The URL for *Parcel Viewer* is http://www.metrokc.gov/gis/mapportal/PViewer_main.htm.	ArcIMS, HTML, ASP
Districts and Development Conditions Report	The *Districts and Development Conditions Report* provides information on a property's characteristics, such as: parcel number, school district, zoning designation, jurisdiction, water district, comprehensive plan designation, ZIP code, sewer district, agricultural production district, county council district, council member, and watershed. Written in ASP and utilizing ArcIMS, it allows anyone with a Web browser to access the page and enter either an address or a parcel number. If a matching record is found, the user is then given a full report of associated data for that property. This page will also take a parcel number as an argument in the URL, so other sites or applications can link into the report. *iMAP* and *Parcel Viewer* provide links to this report.	ArcIMS, ASP, HTML
KC Property Report	*KC Property Report* is an on-line query tool into the King County Assessor tabular data stored in the KCGIS SQL Server RDBMS. Written in ASP, it allows anyone with a Web browser to access the page and enter either an address or a parcel number. If a matching record is found, the user is given a full report of associated Assessor data for that property. This page will also take a parcel number as an argument in the URL, so other sites or applications can link into the report. *iMAP* and *Parcel Viewer* provide links to this report.	ArcIMS, ASP, HTML
Census Viewer	*Census Viewer* is web-based application using ArcIMS that allows the user to view maps and tables of more than 100 community census data indicators for 77 defined places throughout all of King County. Data are displayed at the tract or block group level within each place. *Census Viewer* is designed to be a resource for community organizations, government agencies, researchers and community residents working to strengthen families and neighborhoods. It provides easy access to current data about the population and housing characteristics of the various cities, towns, communities, and neighborhoods of King County.	ArcIMS, ASP, HTML, JavaScript
PostRep	*PostRep* is the nightly posting and replication routine for the KCGIS Spatial Data Warehouse. It replaces the *Integrate* and *Update* cycle found on *WILDFIRE*. The general function of this routine is to run quality control tests on all data submitted to the public library by agency data stewards. Upon passing the tests the data is "Posted" to the public library and "Replicated" into an appropriate shapefile format. *PostRep* is written in Python scripting language to take advantage of the robust geoprocessing programming model specifically designed for use with Python by ESRI.	Python, Transact SQL, VB .NET
StewardTool	*StewardTool* is the application used by data stewards to register new spatial and tabular datasets, update distribution requirements for new and existing layers, create, delete and update staff	ASP .NET

Name	Description	Language
	information, update agency information, and submit a dataset to the KCGIS Spatial Data Warehouse. *StewardTool* replaces the now-defunct *SiteTool* (see http://gisdw/Intranet/apps/StewardTool/). *StewardTool* will be updated as needed to provide the user front-end for the planned enhancements to the nightly *Generate* routines.	
KcamEditExtension	The *KcamEditExtension* is a toolset extension for ESRI's ArcMap. It contains several editing tools for King County Assessor's drafting group to help maintain the cadastral database. It contains the following: *Userid* and *Date Stamper*: For every change or addition to the cadastral database, when the extension is enabled, it will populate the userid of the editor and the date of the addition or change in the appropriate database fields. *ZoomerTool*: This is a dockable window that allows the editor to zoom to a particular PIN or PLSS quarter section within King County. *Misc Warnings*: Window popup warnings are embedded within the extension. For example, whenever an .mxd document is opened, a popup window will warn the user to change their version from the Edit version to one of their own versions. It will then switch the Table of Contents tab from Display to Source so they can easily change versions.	VB .NET
KCGisDateStamper	The *KCGisDateStamper* is an ArcMap extension that will place the userid and date for every change or addition to the ArcGIS database, when the extension is enabled.	VB .NET
Get Map Series Page Numbers	A toolbox script that allows KCA to identify the pages of their QS Parcel Map Book that contain parcels which have been updated within a certain time frame.	Python
Check Fields	A toolbox script that allows King County GIS database stewards to check their data for reserved words.	Python
SDE2Shp	SDE2Shp analyzes fail-over status between SDE databases (GISPROD and GISSQLDW) and synchrony with Plibrary2 shapefile derivatives.	AML, Python
Directory2XLSCrossCheck	Directory2XLSCrossCheck tracks all changes in the Non-KCGIS shapefile library relative to the master control table. Includes analysis of dynamic metadata linkages to maintain uninterrupted access to documentation.	AML, Python
MenuFindsLib	MenuFindsLib builds menu.dbf to support legacy AvLib ArcView 3.x application for both KC-maintained and Non-KCGIS data. Analyzes table for a range of layer consistency, synchronization and metadata quality issues.	AML, Python
Plib3Validate	Plib3Validate is customized to review and flag inconsistencies within the raster library of the SDW. Requires future updates to track changes to data across all tiling levels.	AML
MetaValidate	MetaValidate provides more in-depth analysis of state of layer and raster metadata. High-level issues are evaluated in the routines described above, while this routine standardizes error reporting	AML, Python

Name	Description	Language
	generated by ArcCatalog metadata parser. An in-progress module will also cross-check item and coded-value domain consistency between a layer and its metadata.	
Spatial Data Catalog Interface and Metadata Management	During 2006 all Oracle-based layer metadata was converted to XML- format files for incorporation into the SDE Geodatabase environment. These XML metadata files are also published to the extranet to support the Spatial Data Catalog (SDC). A new front-end application dynamically hosts a redesigned catalog interface and a new KCGIS metadata style sheet. Modifications to the style sheet include adoption of ArcGIS/SDE descriptive elements and a thumbnail image of the dataset, the latter assisting users in understanding the extent and detail of the data. Backend processes produce portable FGDC HTM documents that can be accessed from links within the style sheet. These processes also check for consistency across all metadata support files. After some additional testing, the data catalog will be extended to support table and SQL tabular and spatial view documentation.	XLST, ASP
GIS Data Locator Search Application	This application serves as a supplement to the enterprise Spatial Data Catalog (SDC). It provides a query interface to access information about all spatial data maintained or managed by the KCGIS Center, as well as those Agency data sets described in the preceding year's O&M Plan. Application functionality includes keyword/wildcard search capability and a link to the metadata for each layer. The database that supports the application catalogs all inventoried vector and raster data across all sources, regardless of whether it is loaded to the SDW or not. It also includes records for all table and SQL view fields (items) and for all attributes definitions and domains, extracted from enterprise metadata.	ASP .NET, SQL Server
Project Image Library Database and Query	The Project Image Library serves as an extension to the SDW enterprise orthoimagery and raster data library (i.e., Plibrary3). It is available via the SDW KCLIB share and provides access to all 'project-related' imagery data sets. Many of these data sets are of the same vintage and have equal or better resolution than the enterprise ortho data sets, but cover too limited an extent to justify comparable management in the enterprise database. These data sets are accessible via a suite of descriptively-named image catalogs that assist in locating a data set(s) of the correct vintage and extent. Due to the large number of data sets and their irregular and overlapping extents, an ArcGIS mxd or lyr file can be loaded which provides the spatial extent index for all data sets. The index is hyperlinked to metadata that provides additional details as well as a visual overview of the data quality and extent, assisting the user in further determining the appropriateness of the data set to their need. The Project Image Library inventory is also cataloged via the Intranet SDC portal at http://gisdw/intranet/DataTopics/ProjectImageData/htmserve/imageinventory.htm.	ArcGIS MXD and lyr file with embedded metadata hyperlinks
KCGIS Data Dictionaries	Sufficient enterprise metadata has been structured and populated to build a series of dictionaries containing descriptive data set elements beyond the basic information stored in the primary control table. These data dictionaries include information about all	Python, AML

Name	Description	Language
	enterprise database objects: layers, tables and spatial and tabular views, extracted from the object's xml-formatted metadata. Additional value built into the metadata during updates by data stewards is automatically incorporated into the data dictionaries. Beyond a basic dictionary of key FGDC metadata elements, additional dictionaries document all entity attributes, enumerated attribute values, and place and theme keywords. Dictionary content exists as stand-alone spreadsheet-formatted tables and as records in the GIS DataLocator database. Statistics regarding the frequency of occurrence of common field names, field types and other information useful in new database design efforts can also be found on the Data Dictionary page at http://gisdw/intranet/DataTopics/DataDictionary/index.htm, accessible from the SDC intranet portal http://gisdw/intranet/sdc/index.htm.	
Plibrary2Snapshot	A periodic (2-week to 1-month frequency) snapshot of the contents of Plibrary2 is captured as compressed zip files. This data snapshot stores only those shapefiles (and dbf tables) that have changed since the last snapshot. Approximately every 6 months the entire Plibrary2 database is captured, and then incremental additions are stored until the full baseline capture is made again. The purpose of this snapshot is not to replace or supplement standard system backup policy or procedures. It was initially begun to make recoverable images of the database during the Software Migration project when extensive changes were being made. Now it serves primarily as a database for retrieving earlier versions of datasets. This may be to view data that has been retired or for the purposes of comparing an earlier version of a data set to the current 'live' version on Plibrary2. The archived shapefiles are stored offline on DVD, and can be obtained by contacting the KCGIS Center Data Coordinator. An online catalog of all full and incremental snapshots records can be viewed at: http://gisdw/intranet/DataTopics/Plibrary2Snapshot/Plibrary2SnapshotIndex.xls.	AML, WINZIP
ArcSDE scripts	The ArcSDE operating system command line scripts load data into ArcSDE. The parcel and parcel address layers, PARCEL and PIN_ADDRESS respectively, are loaded to the KCGIS Center Spatial Data Warehouse via ArcSDE scripts as well as spatially enabled views. Spatially enabled views are tabular data joined to vector data to create storage efficient server-side read only views that can be accessed by ArcGIS clients.	SDE (OS Command Line)
DTS Scripts	Data Transformation Services (DTS) is a scripting environment embedded in SQL Server for batch data loading. There are currently four enterprise DTS scripts that run on a regular or as needed basis. Assessor Tables – Runs weekly. Assessments' DTS package pushes tabular data from the Assessors database server to GISPROD.PLIBRARY and the KCGIS Center's DTS package replicates them to GISSQLDW.PLIBRARY and to the file based DBASE tables. Address Tables – Runs Weekly. DTS packages on GISPROD load and merge address data from Assessments and DDES address	SQL Server DTS

Name	Description	Language
	tables. GIS Data Locator – Runs as needed, when updates occur to enterprise data and data received from non-King County sources. REALS Data – Runs as needed, when updates occur to Records and Elections voting districts data.	

5.5.2 Department of Assessments

Name	Description	Language
QSMap	Produces official Assessor QS map and generated PDF file for web display. Uses the GetMapSerices PageNumbers python script maintained by KCGIS as well as Abobe distiller tools and manual processes.	Python and other applications
KCAppraiser	ArcView3 tools for accessing GIS data. Some aspects of this application no longer work as annotation has been moved to the geodatabase.	Avenue
KingView	This application was developed by Assessments' Information Services Division for appraisers to use in valuing property and defending appeals. Additionally, it can be used by other staff as a tool for running quality assurance checks against the spatial and tabular data.	VB, MapObjects
RealProp	This is the primary data viewing tool used by Assessments. It was developed by Assessments' Information Services Division. It has been spatially enabled by giving users access to shapefiles and digital orthophotos. The application also links to ParcelViewer. Users can generate shapefiles from Excel files using this application.	VB, MapObjects
ParcelActivity	This application is used to view and query parcel maintenance items and events. It was developed by Assessments' Information Services Division. It has been spatially enabled by giving users access to shapefile and digital orthophoto data as well as providing a means for generating shapefiles.	VB, MapObjects
ViewControl	This application was designed for the data administrator to set up and control the display of layers available to the KC Appraiser extension. This application was written by the KCGIS Center with Client/Services funding.	Avenue
LotSqft	This application was written by KCGIS to extract lot size information from the KCAM database to be used for posting to the Assessor tables. Process for updating LotSqft in Assessor tables using GIS maintained data. Uses data posted to LOTSQFTlog and ParcelHistory layer.	Python
KCASHAPES	This application was written by KCGIS as a way for KCA to generate a custom shapefile. It was upgraded in 2007 to work with the geodatabase.	Avenue
KcamEditExtension	This extension was written by KCGIS to streamline the KCAM editing process. It is a toolset that includes standard query menus,	ArcObjects

Name	Description	Language
	copying and endpoint tools.	

5.5.3 Department of Development and Environmental Services

Name	Description	Language
GISMO	A Front End Application. In release 1.2 *GISMO* implements three reports: Parcel Information Report; Permit Information Report; and Legal Information Report, produces buffering analysis, generates tax payer mailing lists, and provides all search functions for the legacy *Base2* application. These features are provided as web services from our Intranet web application server. *GISMO* functions are available from within *Base2*, or directly to the user. Base2 will be retired upon the completion of future *GISMO* modules that replace all of *Base2*'s functionality. The reports are written using VB.Net and hit against ArcIMS, INFORMIX, and MS SQL Server data to provide reports with the current data and reduce data redundancy.	VB.Net
Base2	A Front End Application. *Base2* is a customized ArcView project used by staff at DDES to locate and determine the characteristics of a parcel and its vicinity. *Base2* has been the primary tool available to GIS end-users at DDES for the last several years. Lagging performance has always been an issue with *Base2* as response times to queries can be frustratingly slow. To reduce end-users reliance on *Base2* much of its functionality and information content has been ported to quicker browser-based applications such as *iMAP*. The adoption of ArcSDE for GIS data storage at DDES gives further incentive to replace *Base2* and the underlying ArcView 3.1 software, which can not access data from ArcSDE. This application is planned to be retired after complete implementation of *GISMO*.	Avenue
Autoplot	A Front End Application. *Autoplot* is a customized ArcView project that provides a quick and easy method for printing a series of maps that are used during field or site plan review. Each map in the series depicts a different set of environmental or regulatory features that may affect site development. While based on the same code as *Base2*, *Autoplot* produces complex maps that would be difficult to implement in ArcIMS. As a result *Autoplot* will be retained longer. This application is planned to be retired after a replacement application has been developed. Currently ArcGIS Server is targeted as a development solution.	Avenue
Development Conditions Search Engine	A Front End Application. The *Development Conditions Search Engine* is an Internet application using Cold Fusion and Microsoft Access. It provides parcel specific development condition information for unincorporated King County in tabular format with access to scanned and indexed map images.	Cold Fusion
iMAP Sensitive Areas	A Front End Application. *Sensitive Areas* is a map set incorporated into *iMAP*, King County's ArcIMS Internet application. It is primarily used to obtain information on various types of sensitive areas and environmental layers in unincorporated King County. The map sets are designed to provide King County staff and its customers with	XML

Name	Description	Language
	quick and easy access to environmental information. The map set was developed in collaboration with multiple Departments headed by the KCGIS Center.	
iMAP Property Information	A Front End Application. *Property Information* is a map set incorporated into iMAP, King County's ArcIMS Internet application. It is primarily used to obtain information on properties, including their zoning classifications and land use designations for unincorporated King County. The map set provides King County staff and its customers with quick and easy access to this basic planning information. The map set was developed in collaboration with multiple Departments headed by the KCGIS Center.	XML
Districts Report	A Front End Application. *Districts Report* is a web application linked to *iMAP* that uses ArcIMS to return a detailed text report for a specific property based on overlay of many GIS layers. It was developed in collaboration with multiple Departments headed by the KCGIS Center.	XML
DDES_FC_and_ Table_Update	A Utility to transfer geographic data from the KC Spatial Data Warehouse to the DDES test SDE instance, and data from the DDES test SDE instance to the DDES production instance.	Python
DDESSSIS	A Utility to transfer enterprise tabular data from the KC Spatial Data Warehouse to the DDES SQL Server using MS SQL Server 2005 Integration Services (SSIS).	Transact SQL
Update	A Utility to move shape file based geographic data from the test environment to the production environment for *Base2* and *Autoplot* applications. Also replicates a portion of that production environment to a local machine at the remote Redmond Ridge site.	VB Script/DOS Batch File

5.5.4 DES – Emergency Management Division

- None.

5.5.5 DES – Records, Elections, and Licensing Services Division

- None.

5.5.6 DES – Facilities Management Division

Name	Description	Language
REPMS	Real Estate Portfolio Management System.	SQL Server

5.5.7 DNRP – Wastewater Treatment Division

Name	Description	Language
Wtrsamp	*Wtrsamp* creates sample site locators from the DNRP Environmental Laboratory LIMS (Oracle) database with associated water sampling summary information. Updated weekly for access from the corporate library.	Python

Name	Description	Language
CSO Site	Web site – module of the Intranet Data Access Application for access to CSO related information (dependant on wtd_address).	ASP .NET, IMS
WTD_Address	IMS applet that allows for a search of the KC WTD by address. Target audience is O&M group for call response.	IMS
WTD Google Map	Google Map integrated with WTD facilities data providing the public with search capabilities of basic facilities information.	XML, GoogleMap

5.5.8 DNRP – Water and Land Resources Division

Name	Description	Language
Greenprint for King County	*Greenprint for King County* is a map set incorporated into a development version of *iMAP*, King County's ArcIMS Internet application, and so is only available on the intranet. The map set shows the result of the GIS analyses conducted to inform an open space and resource lands conservation and acquisition strategy.	XML, Javascript
Groundwater	*Groundwater* is a map set incorporated into *iMAP*, King County's ArcIMS Internet application. This map set provides information about groundwater and water supply in King County, as maintained by the Groundwater Program of WLR. Example data available includes wells, well head protection areas, groundwater contamination risk areas, and groundwater quality sampling sites	XML, Javascript
Groundwater Data Search	*Groundwater Data Search* is a database access application. It provides a Web interface for users to search the Groundwater Protection Program's database. The application is closely tied to the Groundwater *iMAP* map set.	ASP.NET (VB.NET)
Hydrographic Information	*Hydrographic Information* is a map set incorporated into *iMAP*, King County's ArcIMS Internet application. In addition to providing basic Hydrological information such as floodplains, floodways, or channel migration zones, it provides a link to the real time information from the WLR water quality buoys on Lake Washington and Lake Sammamish. It also includes the hydrogauge layer which offers links to the WLR Hydrologic Information Center.	XML, Javascript
Noxious Weeds Locations	*Noxious Weeds Locations* is a map set incorporated into *iMAP*, King County's ArcIMS Internet application, launched in the spring of 2004. This map set displays information about noxious weed locations as determined by the 2004 Noxious Weeds Survey. In the map set, weeds are loosely classified into 4 habitat categories, and each weed location is linked to the WLR Noxious Weed website with further information about the specific species at that location.	XML, Javascript
Salmon Watcher Program Interactive Map	*Salmon Watcher Program Interactive Map* is a "lightweight" ArcIMS application. The application provides a method for the volunteers in the program to locate, print maps, and obtain information about their particular salmon monitoring sites.	ASP.NET (VB.NET), XML, Javascript
Stormwater	*Stormwater* is a map set incorporated into *iMAP*, King County's ArcIMS Internet application. This map set provides information about KC stormwater facilities, studies, and drainage projects managed by WLR's Stormwater Services Section. This section	XML, Javascript

Name	Description	Language
	relies heavily on this map set to help respond to citizen requests for information and to report drainage problems.	
WRIA 9 Habitat Projects	*WRIA 9 Habitat Projects* is a map set incorporated into *iMAP*, King County's ArcIMS Internet application. This map set depicts the locations of potential and funded salmon habitat restoration and protection projects in the Green/Duwamish and Central Puget Sound Watershed. The projects shown on the map are from the WRIA 9 project database which is updated by KC, local jurisdictions, and partners through a Cold Fusion web interface. A routine, developed by the KC GIS Center, pulls selected information from this database, including PINs to locate the projects, and creates a new SDE layer for iMAP on a weekly basis.	XML, Javascript, Cold Fusion
SMP	Shoreline Master Program (SMP) is a map set incorporated into *iMAP*, King County's ArcIMS Internet application. This map set provides an inventory of the existing shoreline conditions in King County. The shoreline master program applies to marine shorelines, large lakes and rivers. The areas that are within 200 feet of shoreline edge, floodplains, and wetlands in unincorporated King County are included in the shoreline jurisdiction.	XML, Javascript
SMP Application	*SMP Application* is an interactive mapping application that allows users to view existing shoreline conditions by defined reaches. It provides detailed, topical information specific by a given parcel to help explain the technical basis for the shorelines update process. The application provides mapping functionality to view geographic data as well as tabular data explaining different shoreline processes.	ASP.NET, Javascript

5.5.9 DNRP – Parks and Recreation Division

Name	Description	Language
iMAP - Parks Map Set	A KCGIS Map Portal map set that provides an overview of the County's park system. A front-end application, maintained on an as-needed basis, intended for use by Parks and Recreation Division staff, other King County staff, and the general public. Training and technical assistance are available upon request.	ArcIMS
Park Info	A web-based, menu-driven tool for accessing general information on King County parks, trails, and facilities. A front-end application, maintained on an as-needed basis, intended for use by Parks and Recreation Division staff, other King County staff, and the general public. Training and technical assistance are available upon request.	ASP, HTML, SQL Server
Park Locator	A web-based system for locating, mapping, and accessing general information on King County parks, trails, and facilities. A front-end application, maintained on an as-needed basis, intended for use by Parks and Recreation Division staff, other King County staff, and the general public. Training and technical assistance are available upon request.	ArcIMS, ASP, HTML, SQL Server

Name	Description	Language
Park Property	An MS Access database and data entry system that holds detailed property information for King County parks. A back-end custom application, maintained on an as-needed basis, intended for use by Parks and Recreation GIS staff to keep all information up-to-date.	VBA
ParkView	An ArcView-based look-up tool for accessing and mapping general information on King County parks, trails, facilities, and programs. A front-end application, maintained on an as-needed basis, intended for use by Parks and Recreation Division staff and other King County staff, primarily Parks CIP managers within DES - Facilities Management Division. Training and technical assistance are available upon request.	ArcView 3.2a - Avenue
PSAFI	An MS Access database and data entry system that holds detailed facility information for King County parks. A back-end custom application, maintained on an as-needed basis, intended for use by Parks and Recreation GIS staff to keep all information up-to-date.	VBA

5.5.10 DNRP – Solid Waste Division

Name	Description	Language
Brownfields Data Entry Interface	A data entry interface which enables SWD project staff to enter and update information concerning sites for which assessment and cleanup assistance are provided by the Brownfields Program.	Visual Basic, SQL Server, MS Access
Cedar Hills Property Sales Data Interface	A data entry/data query interface which enables SWD project staff to update and extract information concerning parcels sold within the legally-mandated notification zone surrounding the Cedar Hills Regional Landfill.	MS Access
CLCP Data Entry Interface	A data entry interface which enables SWD project staff to enter and update information concerning sites and cleanup events which are administered by the Community Litter Cleanup Program.	Visual Basic, SQL Server, MS Access
Garage/Yard Sale Online Mapping Utility	An internet application which enables internal and external users to list and display locations of garage, yard, and estate sales using interactive maps.	ArcIMS, ASP, HTML, SQL Server
Illegal Dumping Jurisdiction Verifier	A data entry interface and map display system which enables SWD project staff to enter reported locations of illegal dumping and verify the jurisdiction of each location.	ArcIMS, ASP

5.5.11 Department of Public Health

- None.

5.5.12 DOT – Roads Services Division

- None.

5.5.13 DOT – Transit Division

Name	Description	Language
Aspmail4	This application is a remote mailing application used to notify clients and support analysts of data issues and nightly process status.	ASP
AVL	This application provides the Transit Emergency Coordinators an easy-to-use interface for tracking busses and accessing geographic data available in Transit's GIS and corporate data available in Transit's enterprise database.	VB6
Avlschedbuild	This application creates transfer files for the interface application used by Automatic Vehicle Location (AVL) Coordinators. These files are necessary for the AVL application to track bus locations on a daily basis.	VB6, SQL
Avmaps	This application is an ArcView 3.x extension. It provides all ArcView end-users with a simple easy-to-use menu interface for adding layers to a view from the Transit public library. It also provides end-users with a simple easy-to-use interface for creating a layout with title, north arrow, disclaimer, scale bar, date, legend, and view that adhere to the King County GIS Cartographic Standards.	Avenue
Avtabs	This application is an ArcView 3.x extension. It provides customer information analysts with a simple easy-to-use menu interface for graphically showing bus stop signage installation routes.	Avenue
BackupLibrary	This application creates a backup of the data library on *KCMMATHIAS*.	DOS Batch Script
Btreport	This application provides Customer Information analysts with reports identifying data integrity and missing data issues. These reports are typically reviewed prior to an extract of data from the corporate database to downstream information systems.	ASP
CopyTabs Extract	This application copies data from the TABS server to *KCMOLYMPUS* necessary for the AvTabs application.	DOS Batch Script
CreateMOGeocode Indexes	Creates MapObject geocode indexes to aid field querying	VB6
DataConn	This is a COM object that provides a centralized ODBC data connection for use by various applications that connect to the Transit Oracle database.	VB6
EmitterChange	This application compares emitters from the previous day and reports on any changes (inserts, updates or deletes) made by Radio Maintenance staff to APC staff.	VB6
EmitterLinks	Creates a table of streets within 250 feet of a transit emitter to support AVL applications	VB6
Gis2atis	This application converts data from the GIS production library for use in the Automated Traveler Information System or Trip Planning application by customer information analysts. This application will be replaced in 2005/2006 as part of the Wintel Migration.	Model Builder
LicenseManagerRestart	Restarts the ArcGIS License Manager to eliminate hung licenses	DOS Batch Script

Name	Description	Language
MapCutter	This application uses ArcView to create map images (GIFs) for use with the interactive public website Tracker which provides real-time bus information for a specific timepoint or geographic area.	DOS Script, Avenue
MITT_VSS_Analyze	Performs an analyze of the Visual Source Safe (VSS) database to maintain consistent daily database performance levels. The VSS database stores all application source code.	DOS Batch Script
MMI	This application provides the Transit Emergency Coordinators an easy-to-use interface for connecting and managing communications with Transit coaches.	VB6
MoEmitter	This application provides Radio Maintenance staff with an easy-to-use menu interface for maintaining vehicle location emitters. These emitters are used within the Automatic Passenger Counter (APC) system and the Automatic Vehicle Location (AVL) system. This application may be integrated into the GIS Toolbox in 2007.	VB6
Plib2prd	This application transfers data from the KCGIS Spatial Data Warehouse to the Transit GIS library.	VB6
PostDW	This application transfers Transit and street network related shape files to the KCGIS Spatial Data Warehouse.	VB6
ProcessMonitor	This application reports on the status of nightly batch processes that have been executed within the last 24 hours.	VB6
Public Data Requests	This application executes a number of stored procedures to extract specific transit data into comma delimited format and placed on an external FTP site for organizations to use in trip planning systems.	Python, SQL Script, PL/SQL
Publish_Tnet	This application transfers TNET derived data layers to the production library for access by end-users. It also publishes geodatabase data to other Transit enterprise databases through called stored procedures.	Python, PL/SQL
Publish_Tpoints	This application generates new Tpoint data objects for all update street links and populates the related data in Tnet. The result of the processing is a complete set of Tpoints for the production street network.	Python, PL/SQL, Model builder
Publish_Transit	This application transfers transit objects and TNET derived data layers, to the production library for access by end-users. It also publishes geodatabase data to other Transit enterprise databases through called stored procedures.	Python, PL/SQL
Recnpost_compress	Used to reconcile and post each TNET SDE named version to the parent version then compresses the state tree.	Batch Script
Route_Footprint_Generator (formerly AS)	This application provides Accessible Services staff with a simple easy-to-use menu interface for creating transit fixed route service footprints based on time of day.	Avenue
Safety Accident Tracking	This application provides safety and operations staff with a tool for entering accident information, tracking accidents through the legal process and reporting on accidents.	HTML, ASP, VB6 Script, Java Script

Name	Description	Language
Security Incident Tracking	This application provides security and operations staff with a tool for entering security incident information, tracking incidents through the legal process, and reporting on incidents.	HTML, ASP, VB6 Script, Java Script
SecurityIncidentQuery	This application extracts and displays Security Incidents that occurred during a user specified time period for any combination of user specified incident categories.	Avenue
StopShapeExport	Updates Oracle database tables and creates production shapefiles directly from those tables for stop related data.	VB6, ArcObjects
TNET Editor	This application is the primary tool used by Transit GIS to maintain the new transportation network edges and attributes. In addition to the end-user interface tool, it includes GO! Sync software necessary to authenticate users, process those changes against the Master TNET database, and communicate changes between agencies.	VB6, ArcObjects
TOE	Transit Object Editor. This application is the primary tool used by customer information analysts for maintaining route paths and time point locations.	VB6
TPMaps	This application is an ArcView 3.x extension. It generates a single map for every timepoint in jpg image format for display on the MetroKC website. AVL staff periodically run this application to create and refresh the images.	Avenue
Transit GIS Toolbox	This application provides users an easy-to-use menu interface for accessing the vast array of geographic data available in Transit's GIS and corporate data available in Transit's Oracle distribution database. Together, these databases store the agency's spatial and non-spatial information for future, current, and past service changes. Although designed for all Transit staff, the *Transit GIS Toolbox* has several modules with functionality designed for specific work groups. These include: • Ridership – Calculates Transit ridership at user specified locations. • Stop Information System – Bus stop maintenance / Route – Stop sequencing tool. • TOE -- Maintaining route paths and time point locations.	VB6

5.5.14 DOT – King County International Airport

- None.

5.5.15 King County Sheriff's Office

- None.

5.5.16 Metropolitan King County Council

- None.

5.5.17 Office of Budget

Name	Description	Language
Annexation Initiative Map	Interactive application on annexation page of King County website, to allow user to examine addresses within potential annexation areas. Maintained by KCGIS Center.	

5.5.18 Department of Community and Human Services

- Plan not submitted in time for first publication. Plan is expected to be provided as an addendum in early 2008.

5.6 Servers

5.6.1 KCGIS Center

Name	Make/Model	Operating System	Purpose
ORCA	Dell PowerEdge 750	Windows Server 2003	KCGIS Center file and print server; ESRI license manager.
HERCULES	Dell PowerEdge 2650	Windows Server 2003	Front-end Web server for ArcIMS applications.
GISDW	Dell PowerEdge 2650, Dell Powervault 220S Drive Array, Dell/EMC AX150i iSCSI SAN Array	Windows Server 2003	GIS distributed file system root server; Plibrary3 data repository, DNRP GIS data.
GISSQLDW	Dell PowerEdge 2650, Dell Powervault 220S Drive Array, Dell/EMC AX150i iSCSI Array	Windows Server 2003	Back-end SQL server for GIS applications.
MAPPER1	Gateway E9422R	Windows Server 2003 x64	Load balanced spatial servers for ArcIMS application.
MAPPER2	Dell PowerEdge 2650	Windows Server 2003	Load balanced spatial servers for ArcIMS application.
OLD MAPPER1	Dell PowerEdge 2650	Windows Server 2003	
CRAGS	Gateway E9422R	Windows Server 2003 x64	ArcGIS Server system
GISWEBTEST	Gateway E4600	Windows Server 2000	Development Web server.
KCGIS-SS1 and *KCGIS-SS2*	Gateway E4600	Windows Server 2000	Development spatial servers for ArcIMS.
KCGIS-SQLMIGRATION	Compaq ML320	Windows Server 2003	Server setup to test migration from SQL2000 to SQL2005. *Server will be retired after testing is completed.*
DNRP1	Dell Powervault 715N	Windows Server 2000, NAS	DNRP matrixed GIS file server. To be retired in 2007.
GISNAS1	Adaptec Snap Server 4100	Snap OS (Linux)	KCGIS Center file storage; projects2 NFS mount to *WILDFIRE.*
GISNAS2	Adaptec Snap Server 12000	Snap OS (Linux)	Provides the file TRANSFER disk space
KCGIS-EOC	Adaptec Snap Server 2200	Snap OS (Linux)	System contains a replication of shapefiles and some imagery to support RCECC activation.

Name	Make/Model	Operating System	Purpose
GISPROD	Dell PowerEdge 6650, Dell Powervault 220S Drive Arrays (2), Dell/EMC AX150i	Windows Server 2003	Primary KCGIS Center database server; KCGIS Center Time Recording System (TRS) application server.
GISIMAGE	Dell PowerEdge 1800, Dell Powervault 220S Drive Arrays (2)	Windows Server 2003	KCGIS Center imagery development workspace.
GISADCWEB	Gateway 9422	Windows Server 2003 x64	GIS web server at KC alternate data center (Olympia, approx March 2008)
GISADCSQL	Gateway E9422R, Gateway E842R Fiber Channel Drive Array	Windows Server x64	GIS database, application, and license server at KC alternate data center (Olympia, approx March 2008)

5.6.2 Department of Assessments

Name	Make/Model	Operating System	Purpose
SHADOW	HP Proliant ML570	Windows Server 2003	Image Storage, ArcGIS License Manager, ArcView server, GIS data storage.

5.6.3 Department of Development and Environmental Services

Name	Make/Model	Operating System	Purpose
DDES-GIS-DATA	HP Proliant ML350	Windows 2003 Enterprise	A production data server, it runs, ESRI ArcGIS Server Basic Enterprise, and MS SQL Server2005. It provides file based and Geodatabase data for mapping and analysis projects. It provides Geodatabase data for ESRI ArcIMS and ESRI ArcGIS Server Advanced Enterprise based applications running on *DDES-GIS-WEBAPPS*.
DDES-GIS-WEBAPPS	HP Proliant ML350	Windows 2003 Enterprise	A production Intranet server, it runs MS IIS, ESRI ArcGIS Server Advanced Enterprise, and ESRI ArcIMS. It hosts web based GIS applications such as GISMO 2.0. It also hosts the ESRI license manager.
DDES-GIS-DATA-T	HP Proliant ML350	Windows 2003 Enterprise	A development and test server for ESRI ArcGIS Server Basic Enterprise, and MS SQL Server2005.
DDES-GIS-WEBAPPS-T	HP Proliant ML350	Windows 2003 Enterprise	A development and test server for MS IIS and ESRI ArcGIS Server Advanced

Name	Make/Model	Operating System	Purpose
			Enterprise, and ESRI ArcIMS.
DDES-BATCH2	Dell Optiplex GX620	Windows XP	A production batch server that runs ArcGIS models and python scripts to synchronize data between the KCGIS Spatial Data Warehouse and the DDES ArcSDE database.

5.6.4 DES – Emergency Management Division

Name	Make/Model	Operating System	Purpose
XSTORE SERVER	DELL Power Edge Server	Windows 2003	PSAP GIS data host. Installed at the PSAP to host GIS data and send calls to the map.
XSTORE SDE	DELL Power Edge Server	Windows 2003	E-911 GIS data base server. Installed at the E-911 Office for GIS data hosting and upkeep.
PICTOMETRY	DELL Power Edge Server	Windows 2003	For Pictometry Imagery, one at each PSAP.

5.6.5 DES – Records, Elections, and Licensing Services Division

- None.

5.6.6 DES –Facilities Management Division

- None.

5.6.7 DNRP – Wastewater Treatment Division

- None.

5.6.8 DNRP – Water and Land Resources Division

- None.

5.6.9 DNRP – Parks and Recreation Division

Name	Make/Model	Operating System	Purpose
PARKS-01	Dell PowerEdge 2650	Windows 2003 with SQL Server 2000	Server for ArcView licenses, the ParkView application, the Park Site and Facilities database (PSAFI), the Park Properties database (ParkProp) and several non-GIS Access databases which are used for administrative functions.

5.6.10 DNRP – Solid Waste Division

Name	Make/Model	Operating System	Purpose
SW-KSC-020	Custom Build	Windows Server 2003 with SQL Server 2005	SQL database server (MS SQL 2005).
SW-KSC-018	Custom Build	Windows Server 2003	Application server.

5.6.11 Department of Public Health

- None.

5.6.12 DOT – Roads Services Division

Name	Make/Model	Operating System	Purpose
JABBA	HP DL365	Windows Server 2003	Data development and storage server. This server houses the Division's GIS datasets and is a storage area for the Division's GIS-related working data. When data are complete, they are moved up to the KCGIS Center enterprise data server. This server provides a central location for storing project files.
RED-DWARF2	ALR&7200	Win2000 Server	Data development and storage server. This server houses all data developed, enhanced and maintained as part of the King County Cultural Resources Protection Project. Due to the sensitive nature of the data, this server is only accessible by 4 employees in King County.
KODIAK	Aberdeen AberNAS 384	Windows Storage Server 2003 R2	Network Attached Storage for housing GIS data, digital imagery and projects for RSD Technology Unit.
DRACO	Dell Dimension 650	Windows Server 2003 SP2	Development Server for ArcSDE 9.2 synchronization testing.

5.6.13 DOT – Transit Division

Name	Make/Model	Operating System	Purpose
KCMOLYMPUS	Compaq Proliant 8000	Win2003 Server	Production platform for Transit GIS production data and applications, core GIS software, license management, data access tools, batch processing applications, and the spatial production data warehouse and TNET database.

Name	Make/Model	Operating System	Purpose
KCMMATHIAS	Compaq Proliant 8000	Win2003 Server	Development and test platform for applications and data prior to deployment on *KCMOLYMPUS*.
KCMTRANS PORT	Pentium IV	Win2000 Server	Production platform that serves as the focal point for incoming changes to the transportation network from all TNET clients. These changes are processed in ArcGIS on this server against the master TNET database.
KCMRAINIER	Compaq Proliant DL380 G2	Win2000 Server	Production intranet web application server for two applications; Safety Accident Tracking and the Security Data Management System. (This server is shared with other Transit information systems.)
KCMSTHELENS	Compaq Proliant DL380 G2	Win2000 Server	Development and test platform for applications prior to deployment on *KCMRAINIER*.
ORASERV1	Compaq ES 40	UNIX (5.1A)	Production platform for Transit's corporate data warehouse and the GIS Oracle database including geographic data stored as coordinates. Most information systems publishing data for the Division post to this server, and many of Transit's information systems use these databases, including GIS desktop data access applications querying spatial and non-spatial attribute data.
ORATWO	Compaq ES 40	UNIX (5.1A)	Test platform for Transit's corporate data warehouse and the GIS Oracle database. It is used to test applications against new or changed data structures/content prior to deployment to *ORASERV1*.
PHOENIX	Compaq ES 40	UNIX (5.1A)	Development platform for Transit's corporate data warehouse and the GIS Oracle database. It is used to develop new or changed data structures/content prior to testing on *ORATWO*.

5.6.14 DOT – King County International Airport

- None.

5.6.15 King County Sheriff's Office

- None.

5.6.16 Metropolitan King County Council

- None.

5.6.17 Office of Budget

- OMB does not maintain its own GIS servers.

5.6.18 Department of Community and Human Services

- Plan not submitted in time for first publication. Plan is expected to be provided as an addendum in early 2008.

6 Appendix B: KCGIS Center Services

The KCGIS Center serves the county's GIS users and programs. This is accomplished through three lines of business, which include the centralized services provided by Enterprise Operations, the on-demand and customized services provided by Client Services, and the business specific services provided by Matrix Staff Services. This appendix provides an overview of services provided by Enterprise Operations and Client Services. For examples of services provided by Matrix Staff Services refer to the GIS work programs for the six agencies currently supported by matrix staff.

Enterprise Operations

KCGIS Governance Structure Support – Administrative support to the KCGIS Oversight and Technical committees for their routine activities, as well as administrative and professional support to the committees for occasional special projects. Also included in this service are professional and technical support to help develop and serve as custodian of KCGIS standards and best practices, as well as coordinate drafting and publication of the annual KCGIS O&M Plan.

KCGIS Priority Initiatives – Professional and technical support to priority work initiatives as identified by the KCGIS Technical Committee. The level of staff commitment to priority initiatives is significant and is usually in the range of 3.0 FTE each year. See Section 3 of this document for a detailed discussion of the priority initiatives for 2008.

KCGIS Program Coordination – Facilitate coordination and communication across the organizational boundaries of King County agencies. This is in part accomplished by administering and staffing interagency groups such as the KCGIS Users Group, the GIS Application Developers Group, and the Digital Imagery Group. Support is also provided on an ad hoc basis to facilitate discussion and resolution of cross agency GIS issues as they arise.

Regional GIS Coordination – Represent the interests of the KCGIS community at the regional, state, and national level. This includes providing professional support to regional GIS initiatives and collaborations.

Marketing – A program of broad based and targeted communications about the benefits and services of KCGIS. The goal of the marketing program is to increase awareness and use of KCGIS resources and services, in order to enhance the efficiency of government operations, to broaden the financial base supporting KCGIS, and to promote regional GIS collaboration.

Spatial Data Warehouse (SDW) – The core responsibility of the KCGIS Center is to manage all components of the enterprise SDW including; the hardware and software infrastructure that comprise the SDW; the processes that control and monitor the SDW including database administration, data loading, and data access; and the procedures that keep SDW contents logically organized and thoroughly described with accurate and complete metadata.

KCGIS Center Website – Manage all components of the KCGIS Center Internet and intranet websites including the Spatial Data Catalog, and the Map Portal, as well as Web pages describing significant projects, the KCGIS training program, and client services.

GIS Enterprise Applications – Develop and maintain a series of utilities and applications to support the enterprise GIS, agency GIS professionals, and GIS end-users. These services include scripts and programs that perform automatic updates, batch processing, and system integrity checks; applications that support and enable agency GIS data stewards, and Web based and desktop applications that provide access to varying levels of GIS functionality for end-users with GIS skills ranging from novice to advanced.

GIS Data Coordination, Acquisition, and Maintenance – The KCGIS Center has several responsibilities in regards to management of GIS data. Broadly these include: a cross agency data inventory and coordination function to maintain the integrity of the SDW and promote continuous data improvement (this includes support to the King County Assessor to integrate parcel data edits into the county's cadastral base framework); a data acquisition program to obtain (or exchange when possible) and organize GIS data from local, regional, state, and federal agencies; and a data stewardship program to maintain by agreement with the KCGIS Technical Committee a limited set of data layers as an enterprise service.

Contract Management – Manage vendor contracts for GIS software licensing and maintenance and consultant contracts for GIS services.

GIS Education and Outreach – Provide GIS education and outreach opportunities through briefings, seminars, help desk support to internal and external GIS users, GIS Day, and KCGIS User Group meetings.

Client Services

The KCGIS Center Client Services Unit meets the custom needs of individual clients. Clients include county staff needing maps or spatial analysis, GIS end-users or professionals who need training or specialized technical assistance, and managers needing skilled staff to help meet project or peak workload demands. KCGIS Center client services are provided on a full cost reimbursable basis. In 2008 Client Services' hourly labor rates range from $90 - $114 per hour. These rates apply to trained, experienced, multi-skilled GIS professionals working in a variety of specialty areas. Included in calculating the hourly billing rate are individual salary, paid leave, and benefits, KCGIS Center overhead costs for management, training, materials, and supplies, and other central overhead costs passed on to the KCGIS Center.

2008 Standard GIS Client Services Hourly Billing Rates

GIS Analyst (GIS Specialist):	$90.00
GIS Programmer (GIS Specialist Master):	$95.00
Senior Cartographer:	$95.00
GIS Production Coordinator:	$95.00
GIS Project Manager:	$99.00
GIS Consultant:	$99.00
GIS Center Manager:	$114.00

A GIS Technician billing rate is available for long term multi-month data development or data maintenance project work. This special billing rate assumes 139 billable hours per month per GIS Technician (GIS Specialist - Journey only). This rate applies to trained GIS technicians for standard repetitive GIS data development or maintenance work only (e.g. digitizing, COGO, geocoding, etc.). It is also limited only to projects with a minimum duration of three months, and which involve ongoing production-level data development via established methodology. This special billing rate is set at $75.00 per hour in 2008.

The KCGIS Center Client Services Manager is the point of contact for service requests and customer relationship management. The range of services provided by Client Services is described below.

Ad-Hoc Map Requests – KCGIS Center Client Services annually produces hundreds of display maps for meetings and maps made for insertion into documents. Rapid turn-around times and incorporation of custom data are standard features of this service.

GIS Analysis and Reporting – Combining and analyzing GIS data sets is often needed when generating policies, making critical business decisions, or conducting research or investigations. KCGIS Center Client Services has extensive experience performing a wide variety of complex analyses and incorporating the results into reports or presentations.

High-Quality Cartography – Client Services provides specialized high-quality cartography the combines the flexibility of GIS with the artistry of graphic design. Several Client Services map products have won national and international awards in recent years. Examples of products created include brochures, booklets, graphics for outdoor signage, and posters.

KCGIS Data Sales – A standard set of King County data loaded onto a single DVD is updated and published four times per year (January, April, July, and October). The DVD costs $235 and is available by mail order or in person at the King County DOT Road Services Map Counter, located in the lobby of the King Street Center. Further information about the KCGIS data sales program can be found at www.metrokc.gov/gis/services/sales_main.htm on the Web.

Custom Data Requests – Client Services fills custom data requests at the hourly GIS Analyst rate (plus materials), with a three-hour minimum. All data requests that include aerial imagery and LiDAR (elevation)

data are considered custom requests (the preferred format and spatial extent of each request is almost always unique). The goal of the Client Services Unit is to provide exactly the data needed, in the appropriate format, in a timely manner, for the lowest possible cost.

GIS Data Development – Client Services provides a full range of data development services for improving or updating existing GIS data, creating new GIS data, or for integrating non-GIS information into GIS compatible formats.

GIS Application Development – Making GIS information available on the Internet or via a customized desktop interface increases the utility and visibility of that information. KCGIS Center Client Services has created important applications for a variety of clients.

GIS Training Express – Client Services offers a variety of GIS training courses at the King Street Center computer training facility or on-site at a client's facility. Courses are taught by KCGIS Center staff (including an authorized ESRI trainer). Tuition varies based on cost factors but is generally extremely cost-effective when compared to software training offered by other vendors. The training curriculum and calendar are more fully described at www.metrokc.gov/gis/services/training_course_outline.htm on the KCGIS Center website.

GIS Help Desk – Help desk support is available from Client Services, through its Training Coordinator and other support personnel. Free help desk support is provided in reasonable, brief increments to both internal and external GIS users. This service is intended to resolve issues and problems that can be cleared up during a phone conversion, an e-mail exchange, or a brief meeting. More comprehensive support programs that cover ongoing or significant needs can be arranged with the KCGIS Center at the standard Client Services rate.

GIS Services Express – Client Services offers a package called "GIS Services Express" which includes eight hours of free consulting time, discounts for King County data and training, and other amenities, in exchange for a commitment to a block of 100 hours of service. This service is available to any agency seeking help with their GIS program. It provides a mechanism to receive a bundled package of GIS services, and is an excellent opportunity for agencies that are looking to implement their own GIS capabilities, but need guidance and help to get started.

GIS Project Management and Consulting Services – Client Services offers skilled project management and consulting support. Typical services in this area include GIS needs assessment, GIS staff hiring assistance, GIS implementation, and GIS infrastructure review and design.

7 Appendix C: Committees

7.1 Oversight Committee

Details regarding the roles, responsibilities, and structure of the KCGIS Oversight Committee are provided in section 2.2 of this document. Presented here are the recent membership histories for the committee and the committee's current charter.

7.1.1 Membership History

2008 GIS Oversight Committee Representatives

Agency	Sub-Agency	Representative	Term
Dept. of Assessments	--	Iris Hoffner	Jan-Dec
Dept. of Development and Environmental Services	--	Tom McBroom	Jan-Dec
Dept. of Executive Services**	--	Nancy Wickmark	Jan-Dec
Dept. of Natural Resources and Parks	--	Gary Hocking*	Jan-Dec
Dept. of Transportation	Road Services	Greg Scharrer	Jan-Dec
Dept. of Transportation	Transit	Mike Berman	Jan-Dec

* Chair
** Rotating Agency

2007 GIS Oversight Committee Representatives

Agency	Sub-Agency	Representative	Term
Dept. of Assessments	--	John Sweetman Iris Hoffner	Jan-Mar Apr-Dec
Dept. of Development and Environmental Services	--	Tom McBroom	Jan-Dec
Dept. of Executive Services**	--	Jim Buck Nancy Wickmark	Jan-May Jun-Dec
Dept. of Natural Resources and Parks	--	Gary Hocking*	Jan-Dec
Dept. of Transportation	Road Services	Greg Scharrer	Jan-Dec
Dept. of Transportation	Transit	Mike Berman	Jan-Dec

* Chair
** Rotating Agency

7.1.2 Charter

King County

GIS STAKEHOLDER/OVERSIGHT COMMITTEE

April 2004

Purpose:

This charter establishes roles, membership, and guidelines for the GIS Oversight Committee

Role:

As the GIS Oversight Committee, the committee will:

- Review and approve GIS related budgets for all agencies;
- Review and approve the countywide GIS Business Plan;
- Review and approve all GIS work programs, including operations and maintenance plans, with associated costs identified;
- Review and approve King County GIS Standards;
- Review and approve technical and policy recommendations from GIS Technical Committee;
- Provide annual report on work program status to the Technology Management Board;
- Recommend cost allocation model for Central GIS services;
- Make recommendations to the Technology Management Board as needed;
- Resolve issues referred to GIS Oversight Committee as needed.

Leadership:

The representative from the Department of Natural Resources and Parks will chair the committee.

Membership:

GIS Oversight Committee membership shall consist of a representative from the following county agencies: DNRP, DOT-Transit, DOT-Road Services, DDES, and Assessments. Members must have authority for: budget approval; GIS programs within their department; representation of customers and end users; and policy decisions. GIS Oversight Committee will appoint at least one rotating member for a one-year term from agencies and programmatic areas that have significant involvement in GIS. Members will not serve on both the GIS Technical Committee and the GIS Oversight simultaneously.

Operating Assumptions and Guidelines:

- Meetings will be held no less than quarterly and more often if necessary.
- Decisions will be made by consensus. If consensus cannot be reached within the GIS Oversight Committee, the issue will be referred to the Director of the Department of Natural Resources and Parks.
- The GIS Oversight Committee will establish ground rules.

7.2 Technical Committee

Details regarding the roles, responsibilities, and structure of the KCGIS Technical Committee are provided in section 2.3 of this document. Presented here are the recent membership histories for the committee, the committee's current charter, and objectives statements for the committee's active work groups.

The KCGIS Technical Committee publishes its agendas, minutes, quarterly reports, and other documents to the Public Folders on the KC WAN, which are available through the county's e-mail system. The path to the KCGIS Technical Committee documents is Public Folders / All Public Folders / Inter-Agency / GIS / GIS Technical Committee.

7.2.1 Membership History

2008 GIS Technical Committee Representatives

Agency	Sub-Agency	Representative	Term
Budget Office	--	Chandler Felt	Jan-Dec
Dept. of Assessments	--	Christie Most	Jan-Dec
Dept. of Community and Human Services	--	Rachael Black	Jan-Dec
Dept. of Development and Environmental Services	--	Paul McCombs	Jan-Dec
Dept. of Executive Services	Office of Emergency Management	Khalid Khan	Jan-Dec
Dept. of Executive Services	Records, Elections and Licensing	Harry Sanders	Jan-Dec
Dept. of Executive Services	Facilities Management	Larry Wright	Jan-Dec
Dept. of Natural Resources and Parks	KCGIS Center	George Horning	Jan-Dec
Dept. of Natural Resources and Parks	Parks	Greg Stought	Jan-Dec
Dept. of Natural Resources and Parks	Solid Waste	Greg Stought	Jan-Dec
Dept. of Natural Resources and Parks	Wastewater	Bob Swarner	Jan-Dec
Dept. of Natural Resources and Parks	Water and Land Resources	Ruoxi Zhang	Jan-Dec
Dept. of Public Health	--	Dmitry Sharkov	Jan-Dec
Dept. of Transportation	Road Services	Tamara Davis*	Jan-Dec
Dept. of Transportation	Transit	Stephen Krippner	Jan-Dec
Dept. of Transportation	Airport	Vanessa Ng**	Jan-Dec
King County Council	--	Ricardo Bautista	Jan-Dec
Sheriff's Office	--	Jim Hilmar	Jan-Dec

***** Chair
****** Vice-Chair

2007 GIS Technical Committee Representatives

Agency	Sub-Agency	Representative	Term
Budget Office	--	Chandler Felt	Jan-Dec
Dept. of Assessments	--	Christie Most	Jan-Dec
Dept. of Community and Human Services	--	Cheryl Markham	Jan-Dec
Dept. of Development and Environmental Services	--	Paul McCombs	Jan-Dec
Dept. of Executive Services	Office of Emergency Management	Khalid Khan	Jan-Dec
Dept. of Executive Services	Records, Elections and Licensing	Harry Sanders	Jan-Dec
Dept. of Executive Services	Facilities Management	Larry Wright	Jan-Dec
Dept. of Natural Resources and Parks	KCGIS Center	George Horning	Jan-Dec
Dept. of Natural Resources and Parks	Parks	Greg Stought	Jan-Dec
Dept. of Natural Resources and Parks	Solid Waste	Greg Stought	Jan-Dec
Dept. of Natural Resources and Parks	Wastewater	Bob Swarner*	Jan-Dec
Dept. of Natural Resources and Parks	Water and Land Resources	Ruoxi Zhang	Jan-Dec
Dept. of Public Health	--	Dmitry Sharkov	Jan-Dec
Dept. of Transportation	Road Services	Michael Kulish Tamara Davis**	Jan-Nov Dec
Dept. of Transportation	Transit	Tamara Davis** Stephen Krippner	Jan-Nov Dec
Dept. of Transportation	Airport	Vanessa Ng	Jan-Dec
King County Council	--	Ricardo Bautista	Jan-Dec
Sheriff's Office	--	Jim Hilmar	Jan-Dec

* Chair
** Vice-Chair

7.2.2 Charter

King County

GIS TECHNICAL COMMITTEE

Charter

Revised - 6/8/2004

Purpose:

This charter establishes roles, membership, and guidelines for the GIS Technical Committee.

Role:

As the GIS Technical Committee, the committee will:

- Report to the GIS Oversight Committee;
- Recommend policy for countywide GIS technology to GIS Oversight Committee;
- Develop an annual GIS Business Plan and work program;
- Develop and recommend GIS templates and standards for the countywide GIS program;
- Educate departments about the value GIS will add to business practices;
- Maintain an inventory of countywide GIS data and applications;
- Prepare quarterly reports on the status of the countywide GIS program.

Leadership:

The committee will vote annually for chair and vice-chair positions.

Membership:

Membership will consist of one representative from the following King County GIS user agencies:

Assessments	DES-Facilities Management	DNRP-Water & Land Resources
Budget Office	DES-REALS	Public Health
DCHS	KCGIS Center	Sheriff's Office
County Council	DNRP-Parks and Recreation	DOT-Airport
DDES	DNRP-Solid Waste	DOT-Road Services
DES-E911 Program	DNRP-Wastewater Treatment	DOT-Transit

The list of participating GIS user agencies will be reviewed and updated yearly. Members will not serve on both the GIS Technical Committee and the GIS Oversight Committee simultaneously.

Operating Assumptions and Guidelines:

- Meetings will be held at least monthly, and more often if necessary.
- Decisions will be made by consensus of members or designated alternates present. If consensus cannot be reached within the GIS Technical Committee, the issue will be referred to the GIS Oversight Committee.
- GIS Technical Committee will establish ground rules.

7.2.3 Work Groups

The KCGIS Technical Committee will at its discretion create work groups to address technical and programmatic issues. The KCGIS Technical Committee currently has two active work groups (Digital Imagery, and GIS Operations and Maintenance). Work groups are given clear objectives by the KCGIS Technical Committee, in order to focus and guide the group's efforts.

7.2.3.1 Digital Imagery

Objectives Statement:

The purpose of the Digital Imagery Working Group is to develop and manage a long-term acquisition and coordination strategy for geo-spatial digital imagery that meets planning and engineering-level requirements for all King County Departments.

The group is tasked by the GIS Technical Committee to be knowledgeable of current digital imagery assets and future digital imagery needs, research and recommend acquisition solutions, coordinate with internal and external agencies where appropriate, and explore realistic funding options.

The goals of the working group include:

- Provide a resource to county departments in need of geo-spatial imagery and maximize opportunities for cost reduction and elimination of duplicative efforts within the county
- Develop, in coordination with the KCGIS Center, a catalog of existing geo-spatial imagery products in the county
- Develop an inventory of current imagery products, users, user needs and purposes, current and potential funding sources, and technical requirements - including spatial accuracy, resolution, spectral issues, file access and handling issues, acceptable latency of imagery
- Identify areas of common and unique imagery needs, and classify in the most succinct way possible the various needs into general categories to simplify resolution of potentially conflicting efforts
- Work to develop cooperative ventures with other agencies to minimize and share costs, maximize suitability, and where appropriate eliminate duplicative effort among agencies in acquiring new aerial imagery
- Investigate and make recommendations on potential imagery acquisitions
- Evaluate and report on emerging trends pertinent to King County geo-spatial imagery needs
- Review and edit (as appropriate) metadata for imagery sets in support of KCGIS data coordinator
- Develop guidelines and recommendations for use of the various imagery products in cooperation with the product authors
- Develop training/educational materials to assist county users in maximizing the use of imagery
- Develop or provide assistance in developing contracts and specifications for acquisition and/or processing of geo-spatial imagery

7.2.3.2 GIS Operations and Maintenance

Objectives Statement:

The GIS Operations and Maintenance Workgroup will produce an annual working document which: 1) Outlines the roles and responsibilities for the countywide GIS program; 2) Describes the current status of GIS services, applications, data and hardware; 3) Delineates the coordinated department level work plans for the coming year; and 4) Sets goals for the future technical direction of the countywide GIS program.

With the publishing of this document (the "2007 King County GIS Production Operations and Maintenance Plan") the work group has fulfilled its responsibilities for 2006. In the later half of 2007 the

work group will begin efforts to draft the 2008 GIS operations and maintenance plan. See www.metrokc.gov/gis/kb/Content/OandM.htm on the KCGIS Center website for the most recent version of the operations and maintenance plan.

8 Glossary

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.NET

Microsoft published set of software technologies used to develop small building-block applications that can connect to each other as well as to other, larger applications over the Internet. Used with various programming languages such as Visual Basic and Active Server Pages. See also listings for VB and ASP.

A

Accuracy

The degree to which data represent the real world whether it regards geographic location or attribute.

Agency Data

Data primarily for internal use by the King County agency being discussed, typically not shared with other agencies and not posted in the KCGIS Spatial Data Warehouse.

AIRS Form

A form required for the processing of monetary inter-fund transfers between King County budget units.

ALI

Automatic Location Identifying

A feature by which information is provided to a public safety answering point identifying the location, the latitude and longitude of a call to a public safety answering point.

AML

Arc Macro Language

AML is an interpreted macro (script) language which translates and executes ESRI Arc/INFO commands.

APC

Automatic Passenger Counting

An information system used by Transit to collect, process, summarize, publish, and manage daily ridership counts.

Arc/INFO or ArcInfo

ESRI published GIS software. Used extensively by GIS programs within King County. Significant changes where introduced between ArcInfo 7.x and ArcInfo 8.x. Versions before 8.0 are sometimes referred to as "workstation". Versions after 7.0 use an entirely new data structure.

Arc8.x or Arc9.x

ESRI published GIS software. See listing for Arc/INFO.

ArcCatalog

ESRI published GIS software that organizes and manages GIS information such as maps, globes, data sets, models, metadata, and services.

ArcEngine

ESRI published GIS software. It allows core ArcObjects to be embedded in custom desktop applications. It replaces Map Objects.

ArcExplorer

ESRI published GIS software. A lightweight GIS data viewer.

ArcGIS

ESRI published GIS software. See listing for Arc/INFO.

ArcIMS

Internet Map Service

ESRI published software solution for distributing mapping and GIS data and services on the Web.

ArcObjects

ESRI published collection of software components with GIS functionality and programmable interfaces, based on the COM protocol. Often used with Visual Basic.

See also listing for VB.

ArcPad

ESRI published GIS software. It runs on hand held devices and is used to reference and collect GIS data in the field.

ArcSDE

Arc Spatial Data Engine

ESRI published software solution for storing Geographic data in a RDBMS.

ArcServer

ESRI published GIS software. It provides server-side Geographic data storage, map services, spatial analysis functions, etc. An umbrella product name that covers all server functionality including ArcSDE and ArcIMS.

ArcView

ESRI published GIS software. Used extensively by GIS programs within King County. Significant changes where introduced between ArcView 7.x and ArcView 8.x.

Versions before 8.0 are a based on a unique code base. Versions after 3.0 are a limited functionality version of ArcInfo 8.x. See listing for ArcInfo.

ASCII

American Standard Code for Information Interchange

The predominant character set encoding of present-day computers.

ASP

Active Server Pages

Microsoft published scripting language used to create web pages. The scripting is stored and executed on the server hardware. See also .NET listing.

Author

Person or organization responsible for collecting and/or encoding data into a GIS readable format.

Avenue

An object oriented scripting language for ArcView 3.x or earlier.

AVL

Automatic Vehicle Location

An information system with an interactive graphic map display used by Transit coordinators to track revenue coaches and manage service in near real time.

B

Back End

The portion of a computing environment dealing with Servers and information system that the End User does not deal with directly.

Bathymetric

Relating to the measurement of depths, especially of depths in bodies of water.

Benthic

The collection of organisms living on or in the sea or lake bottoms.

Best Practices

The best possible way of doing something; it is commonly used in the fields of business management, software engineering, and medicine, and increasingly in government.

Buffer

A type of GIS analysis that calculates the area within a given distance from a set of geographic features.

C

CAD (1)

Computer Aided Drafting

A computer system used to create detailed measured drawings. Used for Architectural, Engineering, and other plans.

CAD (2)

Computer Aided Dispatch

A computer system used to aid in the dispatch of emergency vehicles to respond to incoming calls.

CAO

Critical Areas Ordinance

Ordinance passed in October 2004 to protect Critical Areas in unincorporated King County. Critical Areas include both hazardous areas (such as floodplains and steep slopes) and environmentally sensitive areas (like wetlands and streams). Critical areas also include areas that are important for protecting groundwater.

Cadastral

A public record, survey, or map of the value, extent, and ownership of land as a basis of taxation.

Cadastral Base

Layer depicting the extent and ownership of land parcels.

CARS

Citizen Action Requests

Reports from Citizens in King County regarding drainage problems.

CARTS

Citizen Action Request Tracking System

A computer system used to track CARS.

CASE

Computer Aided System Engineering

See listing for ESRI CASE extension.

CIP

Capital Improvement Program

A portion of the King County budget containing capital construction projects, often including a list of projects to be financed and constructed over a 6-year period. Each project includes one or more of the following elements: acquisition of a site and/or existing structure, program or site master planning, design and environmental analysis, design, construction, major equipment acquisition, reconstruction, demolition or major alteration of a capital asset.

CLASS Database

A centralized database used to track customers, facility rentals and program registration for the Parks Division of KC DNRP.

Client

Any person or organization that is receiving GIS services.

Clustering

Linking together two or more computers to work together on performing functions.

COGO

Coordinate Geometry

COGO is a command structured problem oriented language and computer program for the solution of geometric problems.

COM Object

A software component that conforms to Microsoft's Component Object Model (COM).

Component Object Model (COM)

A component software architecture from Microsoft, which defines a structure for building program routines (objects) that can be called up and executed in a Windows environment.

COMPSTAT

A crime analysis and police management process developed by the New York City Police Department.

Conflation

The process of transferring attributes from one source spatial dataset to another target spatial dataset. Typically the geometry of the target is more complete or more accurate than the source, but it is often missing required attributes that exist in the source.

Coverage

A specific data format used for GIS layers native to Arc/INFO version 7.x and earlier.

CRIS

County Road Inventory System

Cron Job

A cron job is an automated computer process that operates at predefined time intervals.

CRPP

Cultural Resources Protection Project

A countywide integrated system for documenting, assessing and treating cultural resources. Designed to provide a more efficient compliance with federal, state and local cultural resource law, and expedite transportation projects.

CSI

Conveyance System Improvements

CSO

Combined Sewer Overflow

Currency

The degree to which data represent the real world as it exists at the most recent moment in time.

Currentness

See listing for Currency.

Customer

Any person or organization that is receiving GIS services.

CX

Current Expense

The county's Current Expense fund; provides budget for various programs and departments that do not have their own revenue streams.

D

Data Development

Creating a data set from scratch.

Data Maintenance

The process of tending to a data layer as it ages: updating attributes that change; correcting errors that are identified; assuring data integrity; migrating to new data formats as necessary; etc.

Data Modeling

A conceptual representation of the data structures that are required by a database implementation. Data structures include the data objects, the associations between data objects, and the rules which govern operations on the objects.

Data Owner

See listing for Data Steward.

Data QC

Data Quality Control

A process for maintenance of standards of quality for data layers.

Data Set

One or more tables or spatial layers together with their metadata.

Data Stakeholder

A client or other party who relies on GIS data for the business functions of their organization.

Data Steward

The person responsible for the maintenance of a data set who controls content, currency, and access to that data set.

Data Stewardship

Maintenance of a data set's content, currency and access permissions.

Data Warehouse

A computer storage system used to make data available to a wide range of users. Often used to refer to the KCGIS Spatial Data Warehouse. See listing for KCGIS Spatial Data Warehouse.

Database Administrator

The person who provides access to data, and moderates content, structure and location of data.

DBA

Database Administrator

See listing for Database Administrator.

DCHS

Department of Community and Human Services

King County Department.

DDES

Department of Development and Environmental Services

King County Department.

DEM

Digital Elevation Model

Digital cartographic/geographic data in raster form, in which the terrain elevations for ground positions are sampled at regularly spaced horizontal intervals.

Derivative

A data set created as a subset or modification of an existing data set.

DES

Department of Executive Services

King County Department.

Digitize

The process of capturing data, as recorded from direct observation or from non-computerized data products, for use with a computer system.

DMS

Data Management System

See listings for SafetyDMS and SecurityDMS.

DMZ

De-Militarized Zone

A network added between a protected network and an external network to provide an additional layer of security.

DNRP

Department of Natural Resources and Parks

King County Department.

DNRP GIS Unit

A functional unit of DNRP that provides GIS services to internal clients.

DOCTOOL

A KCGIS enterprise application used by data stewards for creating and maintaining metadata for enterprise data layers.

DOS Batch Script

In DOS and Windows, a batch file is a text file with a series of commands. When the batch file is run, the shell program (command.com or cmd.exe) reads the file and executes its commands in order. A batch file is equivalent to a shell script under Unix.

DOT

Department of Transportation

King County Department.

DPH

Department of Public Health

Merged Seattle & King County Department.

Dynamic Segmentation

The ability to compute the locations of events at run time of linear features. The segmentation points are not stored in the geometry of the coverage – they are derived when needed.

DTS

Data Transfer Services

A function of MS SQL Server, it allows the transfer of data from one database to another with an automated scripting language.

E

E-3 Busway

The street pathway restricted to Transit-only that extends North-South from the Transit Tunnel's International District Station to Spokane Street between 4th Avenue South and 6th Avenue South.

EH

Environmental Health

A division of the Seattle & King County Public Heath Department.

EMS

Emergency Medical Services

A division of the Seattle & King County Public Heath Department.

End User

See listing for GIS User.

Eng

Engineer

King county employee Classification.

Enterprise Data

Data shared with other agencies, and posted in the KCGIS Spatial Data Warehouse.

Enterprise Library

See listing for KCGIS Spatial Data Warehouse.

EOC

Emergency Operations Center

A facility used to coordinate public services and information during an emergency situation.

EPE

Epidemiology, Planning and Evaluation

A division of the Seattle & King County Public Heath Department.

ESA

Endangered Species Act

A federal statute originally passed in 1973 to provide for the designation and protection of invertebrates, wildlife, fish, and plant species that are in danger of becoming extinct, and conserve the ecosystems on which such species depend.

ESN

Emergency Service Zone Numbers

ESRI

Environmental Systems Research Institute

A vendor of GIS tools and applications used widely by King County GIS staff.

ESRI CASE extension

Computer Aided System Engineering

Computer Aided System Engineering tools, used to assist in application development with ESRI products.

F

FEMA

Federal Emergency Management Agency

US government agency devoted to response to catastrophic emergencies.

FGDC

The Federal Geographic Data Committee

An interagency committee, organized in 1990 that promotes the coordinated use, sharing, and dissemination of geospatial data on a national basis.

FIRS

Facility Information Retrieval System

A computer system used by King County DNRP Wastewater Treatment Division.

Front End

The portion of a computing environment that the End User interacts with directly.

FTE

Full-Time Equivalent

Representing a single full-time employee.

G

GASB

Governmental Accounting Standards Board

Organization whose mission is to establish and improve standards of state and local governmental accounting and financial reporting.

Geocoding

The process of processing addresses in a GIS to provide a corresponding geographic data point.

Geodatabase

A specific data format used for GIS layers native to ArcINFO version8.x and later.

GIS

Geographic Information System

A collection of computer hardware & software tools used to enter, edit, store, manipulate, and display geographically referenced data.

GIS Center

See listing for KCGIS Center.

GIS Oversight Committee

The KCGIS Oversight Committee is responsible for guiding the direction of the KCGIS program. See Oversight Committee section in this document for a detailed discussion.

GIS Power User

An individual who uses GIS at an intensive level but whose main function in the County is not the creation, maintenance, and analysis of GIS data.

GIS Professional

An individual whose main function in the County is the creation, maintenance, and analysis of GIS Data.

GIS Technical Committee

The KCGIS Technical Committee is responsible for developing standards, coordinating work programs, and addressing programmatic issues for the KCGIS program. See Technical Committee section in this document for a detailed discussion.

GIS User

An individual who uses GIS to any degree but whose main function in the County is not the creation, maintenance, and analysis of GIS data.

GLO

Government Land Office

GPS

Global Positioning System

A system of satellites, computers, and receivers that is able to determine the latitude and longitude of a receiver on Earth by calculating the time difference for signals from different satellites to reach the receiver.

GUI

Graphical User Interface

An interface for issuing commands to a computer utilizing a pointing device, such as a mouse, that manipulates and activates graphical images on a monitor.

GWMA

Groundwater Management Areas

Administrative Areas of King County designated by WLRD for the purpose of managing ground water.

H

Hillshade

An image consisting of shadows drawn on a map to depict topographic relief by simulating the effect of the sun's rays over the land.

HPP

Historic Preservation Program

HRI

History Resource Inventory

An ongoing survey of historic resources resulting in an inventory of over 1300 properties.

I

I/I

Inflow and Infiltration

Integrity

The measure of data that indicates its usable condition.

Internal Service Fund

A King County agency that provides services to other King County agencies. The funding for an internal service agency is provided by those other King County agencies.

Intranet

A linked network among King County agencies, that is not available to the larger Internet.

ISA

Information Systems Analyst

A King County Job Classification.

ISP

Information Systems Professional

A King County employee Classification.

IT

Information Technology

The development, installation, and implementation of computer systems and applications.

J

Java Script

A user interface scripting language developed by Netscape for Web browsers. While the syntax of the Java Script programming language resembles that of Java, the two languages are actually unrelated. Java Script source code is embedded in HTML documents, and is interpreted by a Web browser.

K

KCEGIS

King County Elections GIS

A functional unit of Records & Elections Division of DES that provides GIS services to accommodate the election process.

KCGIS

King County GIS

See the Organization section of this document for a detailed explanation of the King County GIS program.

KCGIS Center

King County Department of Natural Resources and Parks group that works with the KC department GIS programs to coordinate the KCGIS program, to deliver the GIS services that King County department customers require to support their business needs, and to develop the systems necessary to build the GIS environment needed to attain the County Executive's vision.

KCGIS Oversight Committee

See listing for GIS Oversight Committee.

KCGIS Spatial Data Warehouse

A central repository of GIS data that is maintained by various agencies within King County, as well as other entities, for the purpose of common access.

KCGIS Technical Committee

See listing for GIS Technical Committee.

KCIA

King County International Airport

A functional unit of KC DOT. Also known as Boeing Field.

KCSO

King County Sheriff's Office

King County Department.

KCSORPIS

King County Sheriff Office's Research, Planning and Information Services Unit.

L

LAN

Local Area Network

A system that links together electronic office equipment, such as computers and word processors, and forms a network within an office or building.

Layer

A collection of geographic data objects that represent one particular characteristic for a specific spatial extent.

LIDAR

Light Intensity Detection And Ranging

A method using lasers to measure distances to reflective surfaces. Used with GIS to generate elevation data.

LIMS

Laboratory Information Management System

A large database and access tools for the King County Department of Natural Resources and Parks.

Link

A single feature in a GIS linear data layer. (also arc or line).

M

MapObject

Of or having to do with MapObjects.

MapObjects

Software from ESRI that provide a collection of embeddable mapping and GIS components. Developers can use MapObjects to create applications that include dynamic live maps and GIS capabilities.

Matrix Management structure

A management structure in which two or more supervisors share the responsibilities of management of the same people or groups.

Matrixed

See listing for Matrix Management.

Metadata

Definitional data that provide information about or documentation of other data managed within an application or environment.

MLS

Multiple Listing Service

A means by which real estate agents are informed of the properties offered for sale by other agents.

MMS

Maintenance Management Systems

A computer systems used to assist in the planning, scheduling, and tracking of maintenance work.

Mount Point

An established starting point (path) for directory browsing.

MSAG Coordinator

Master Street Address Guide Coordinator

MS SQL Server

Microsoft Relational Database Management System.

Multispectral Imagery

Images obtained simultaneously in a number of discrete bands (specific section) of the electromagnetic spectrum.

Mylars

Thin strong polyester film used primarily for ink-drawn maps and graphics.

N

NAS

Network Attached Storage

Hard disk storage that is set up with its own network address rather than being attached to the file server.

NIES

A former Western Washington mapping group, now the US office of Triathlon that provides photogrammetry services and digital orthophotography products to many Puget Sound organizations.

NPDES

National Pollutant Discharge Elimination System

Program under the U.S. Environmental Protection Agency that controls water pollution by regulating point sources that discharge pollutants into waters of the United States.

O

O&M Plan

Operations and Maintenance Plan

Describes how the KCGIS program will be administered and operated.

OCR

Office of Cultural Resources

Functional unit of King County government.

ODBC

Open Database Connectivity

A standard method of sharing data between databases and other programs. ODBC drivers use the standard Structured Query Language (SQL) to gain access to data stored in a RDBMS.

OEM

Office of Emergency Management

Functional Unit of DES.

OMB

Office of Management and Budget

King County's budget office.

Oracle

A RDBMS software application.

Originator

See listing for Author.

ORPP

Office of Regional Policy and Planning

King County organization disbanded at the end of 2002, with many functions including GIS distributed into the Budget office.

Orthoimagery

A remotely-sensed digital picture, stored in a raster data format.

Oversight Committee

See listing for GIS Oversight Committee.

P

ParaTransit

A passenger transportation service primarily intended for mobility-impaired, mentally-impaired, and senior citizens (elderly persons). Most vehicles used in paratransit are especially equipped with wheelchair lifts or ramps to facilitate access.

PDF

Portable Document Format

Computer document format that is well suited for distributing documents with complex formatting, used extensively by KCGIS for map distribution.

PIN

Parcel Identification Number

Unique ten digit numeric identifier for real property within King County.

PLSS

Public Land Survey System

A system established in 1785 by the Federal Government, providing for surveying and describing land by reference to principal meridians and base lines. Also called the rectangular or government survey.

POCA

Public Land Survey, Ownership, County, and Administration boundaries

An office of the Washington State Department of Natural Resources.

Poster

The person responsible for the publication of a data set to the data warehouse.

Production data

Data which are as current and accurate as possible and suitable for, use on an enterprise-wide level.

Production Environment

A computing environment available to multiple users, tested and stable for daily use.

Project Data

Data sets created or developed for specific projects which may not be suitable for broader purposes.

PSAFI

Park Site and Facilities Information

PSAP

Public Safety Answering Point

Location where E911 calls are received.

PSRC

Puget Sound Regional Council

An association of cities, towns, counties, ports, and state agencies that serves as a forum for developing policies and making decisions about regional growth and transportation issues in the four-county central Puget Sound region.

P-Suffix

A property-specific zoning or land-use condition that is applied to a parcel or a group of parcels.

Public

Accesses data in the warehouse without authentication and typically has extremely limited privileges.

Public Library

Data housed on a central server that is accessible to all of King County government, the contents of which are accessible according to privileges assigned by data stewards.

Public Server

A computer system that is accessible to all of King County government, the access to which is assigned by the DBA.

Publisher

See listing for Poster.

PUD

Public Utility District

An agency that provides electrical power, water, or other utility services to residents and businesses in defined districts of Washington State.

Python

Scripting language used to automate tasks in ArcGIS.

Q

Qualified Technician

An individual who has been adequately trained in the installation/maintenance of the hardware, software, database, or applications.

R

RAID

Redundant Array of Independent Disks

A strategy for organizing physical disks for a server.

Raster

A type of computer graphics that is specified by a grid of columns and rows of values that are arrayed to form an image.

RCAMM

Road's Comprehensive Asset and Maintenance Management

The RCAMM project will update and standardize the business processes and technology used to support the essential functions of roadway operations. These functions include management of the road network and its components from planning and budgeting, initial installation, through inspection and maintenance to removal from the system.

RCW

Revised Code of Washington

The compilation of all permanent laws now in force in the State of Washington.

RDBMS

Relational Database Management System

A program that allows users to create, update and administer a relational database.

REALS

Records, Elections and Licensing Services

A division of DES.

REPMS

Real Estate Portfolio Management System

RID

Road Improvement District

A method allowed under Washington State Law to pay for the cost of road improvements that provide a special benefit to adjacent property. All the property owners pay for the project, usually over 10 to 20 years.

RP&IS

Research, Planning & Information Services

A functional unit of KCSO.

RSD

Road Services Division

A division of KC DOT.

S

SafetyDMS

Safety Data Management System

An application for recording and tracking bus accidents and transit operator safety records.

SAN

Storage Area Network

A high-speed communications network optimized for storage.

SAO

Sensitive Areas Ordinance

King County ordinance governing the allowed development activities within a significant impact threshold of environmentally sensitive area.

SCSI

Small Computer System Interface

A standard for computer system communication. Generally used by the KCGIS program for server computers to communicate with high performance, high reliability, hard disk drives.

SDC

Spatial Data Catalog

The metadata resource for the KCGIS Spatial Data Warehouse.

SDE

Spatial Database Engine

See listing for ArcSDE.

SDW

Spatial Data Warehouse

See listing for KCGIS Spatial Data Warehouse.

SecurityDMS

Security Data Management System

An application for recording and tracking incidents that occur on or around transit coaches.

SF1 (SF2, SF3...)

Summary File

Summary files available from the US Census Bureau.

Shapefile

A specific data format used for GIS layers native to ArcView version 4.x and earlier.

SIS

Stop Information System

An application that will allow the placing, sequencing, and attribution of bus stops.

SMDM

Science, Monitoring and Data Management

A section of WLRD.

Spatial Data Warehouse

See listing for KCGIS Spatial Data Warehouse.

SQL

Structured Query Language

An industry-standard computer language used for creating, updating and, querying RDBMS.

SQL Server

See listing for MS SQL Server.

SSIS

SQL Server Integration Services

A component of Microsoft SQL Server starting with version 2005, a platform for building and automating data integration processes, including extraction, transformation, and loading of data.

Steward

See listing for Data Steward.

Stewardship

See listing for Data Stewardship.

SWD

Solid Waste Division

A division of DNRP.

SWES

Surface Water Engineering Services Unit

A part of WLR Capital Projects and Open Space Acquisitions Section.

T

Technical Committee

See listing for GIS Technical Committee.

Technology Management Board

Part of the King County Technology Governance Structure that oversees technology projects.

Test Environment

A computing environment available for developing and testing of new/revised applications and software.

Testing data

Data being developed that are not ready for enterprise-wide use but will be in the future.

TIFF

Tagged Image File Format

A popular and flexible raster computer graphic file format.

TLT

Term-limited Temporary

A temporary King County employment position with a specified end date.

TNET

Transportation Network

A consortium of regional cities, county agencies as well as public/private partnerships participating in maintaining a seamless database of transportation related spatial and attribute datasets.

TOE

Transit Object Editor

An application for placing and editing Timepoints and TPIs in the Transit GIS network.

Topology

The spatial relationship between geographic features. The term is often used to refer to explicit rules of relationships that are allowed, and the resulting record of those relationships.

Triathlon

Formerly NIES, a Western Washington mapping group, provides photogrammetry services and digital orthophotography products to many Puget Sound organizations.

Two-cluster system

See listing for Clustering.

U

UNIX

A multi-user general-purpose operating system. Generally used by the KCGIS program for GIS software and RDBMS servers.

URL

Uniform Resource Locator

An address that identifies a document or resource on the World Wide Web.

V

VB

Visual Basic

Microsoft programming language, and Integrated Development Environment, supporting graphic user interfaces and used extensively with ESRI GIS software. There are many versions of Visual Basic including VBA (Visual Basic for Applications) and VB.NET. See also listing for .NET.

VBA

Visual Basic for Applications

Vector

A type of computer graphics that is specified by mathematical formula, and consisting of lines and shapes.

VoIP

Voice over Internet Protocol

The predominant character set encoding of present-day computers.

W

WAN

Wide Area Network

A communications network that uses such devices as telephone lines, satellite dishes, or radio waves to span a larger geographic area than can be covered by a LAN.

Warehouse

See listing for Spatial Data Warehouse.

Wintel

Windows/Intel

A technology platform incorporating Microsoft Windows as an operating system and Intel-type chip sets.

WLRD

Water and Land Resources Division

A division of KC DNRP.

WRIA

Water Resource Inventory Areas

Administrative Areas of Washington State designated by Washington State Department of Ecology.

WSDNR

Washington State Department of Natural Resources

Washington State government agency.

WTD

Wastewater Treatment Division

Division of DNRP.

X

XML

Extensible Markup Language

A text markup language for interchange of structured data between various software applications.