

Commission Briefing Paper 6C-01

Scenario Findings: Guide to Tables

Prepared by: Section 1909 Commission Staff
Date: August 6, 2007

Introduction

This document is intended to serve as a reference guide to three sets of tables developed to summarize the initial findings of five alternative scenarios developed in support of the National Surface Transportation Policy and Revenue Study Commission. These tables include:

- 4 Summary tables (labeled page S-1 to page S-4), comparing funding and performance statistics among the scenarios
- 6 Funding tables (labeled page F-1 to page F-6), separately documenting capital investment levels for the base case and each of the five scenarios
- 15 Performance tables (labeled pages P-1 to page P-15), separately documenting the impact of the base case and each of the five scenarios on a variety of performance measures

Summary Tables

This table set consists of a series of four tables as follows:

1. Scenario Impacts By 2020 (After 15 Years): Highway Conditions and Performance
2. Scenario Impacts By 2035 (After 30 Years): Highway Conditions and Performance
3. Scenario Impacts By 2055 (After 50 Years): Highway Conditions and Performance
4. Scenario Impacts By 2020, 2035, and 2055: Transit

Each of these tables is broken down into 3 major blocks for different funding levels, defined as follows:

- Current Sustainable Funding Levels
 - Highways and Transit: Based on projected near term revenues to the Federal Highway Trust Fund (using the revised Midsession numbers), and assuming revenues from other Federal, State, local and private revenue sources grow at the rate of inflation.
- Medium Funding Levels
 - Highways: Set at a level estimated to be adequate to at least maintain selected major conditions and performance indicators (specifically average delay on urban principal arterials and the percent of VMT on roads with acceptable ride quality) at 2005 levels, if it is cost beneficial to do so (in cases where this level of performance could not be attained in 2055, the medium funding level was instead set in a range falling between current sustainable funding and the high funding level)
 - Transit: Set at a level estimated to be adequate to maintain individual major conditions and performance measures at 2005 levels

- High Funding Levels
 - Highways: Set at a level adequate to implement all potential cost-beneficial highway capital investments
 - Transit: Set at a level estimated to be adequate to improve individual major conditions and performance measures relative to 2005 level

The individual columns in these tables reflect 2005 values, and values for the base case and the five scenarios:

- Base Case (Continuation of existing trends and policies)
- Scenario 1 (Maximum Operations)
- Scenario 2 (Travel Demand and Energy Efficiency)
- Scenario 3 (Aggressive System Expansion)
- Scenario 4 (Exclusive Passenger and Freight Facilities)
- Scenario 5 (Maximum Technology)

The individual rows in the first three of these tables reflect a series of highway statistics (these are described in the discussion of the first table below). The individual rows in the fourth table reflect a series of transit statistics (these are described in the discussion of that table below).

Scenario Impacts By 2020 (After 15 Years): Highway Conditions and Performance

This table (along with the next two tables) includes rows for the following:

- Average Annual Capital Investment (billions of \$2006)
 - This identifies the amount of capital investment assumed for each scenario. In the 1st block, these values are all the same, since a fixed funding level (i.e., the current sustainable funding level) was utilized for all applicable scenarios. In the 2nd and 3rd blocks, these amounts differ, since the Medium funding level was defined on a performance basis (and the dollar amount required to achieve that level of performance would vary by scenario), and the High funding level was defined in economic terms (and the level of potential cost-beneficial investment would vary depending on the scenario).
- Lane-Miles added to all Federal-aid Highways (FAH)
 - The amounts shown reflect addition to the 2005 level of 2,335,393 lane miles.
- Vehicle Miles of Travel (VMT) on all roads (billions)
 - In the base case (and the scenarios) this amount varies among the funding levels. This is a reflection of the impact that making highway improvements (or failing to make them) can potentially have on highway VMT. While the analysis was based on single VMT forecast, this forecast implicitly assumed a general continuation of the current environment in terms of congestion and overall highway user costs. At lower levels of investment, congestion and highway user costs would tend to increase, causing some travel that might otherwise have occurred to be suppressed. At higher levels of investment, congestion and highway user costs in general would tend to decrease, encouraging some additional VMT that would not otherwise have occurred in the absence of improvements to the system.

- Percent of VMT on roads with acceptable ride quality
 - The term “acceptable ride quality” is tied to a specific International Roughness Index value (no more than 170 inches/mile). This standard was designed to apply to the NHS, but is extended to apply to all roads as part of this analysis. This statistic should be viewed as a relative indicator of physical conditions, although it does not represent an abrupt break point in terms of the effectiveness of a highway facility (i.e., if the IRI value for a facility falls from 170 to 171, this does not cause significantly impact wear and tear on vehicles or speed).
 - It would not actually be cost-beneficial to raise the percent of VMT on roads with acceptable ride quality statistic to 100% for all roads.
- Average Delay (hrs/1000 VMT) on urban principal arterials
 - In evaluating this statistic, it is important to note that the denominator of 1000 VMT is arbitrary, and that one should focus on the relative size of changes in the values of this statistic, rather than the absolute changes. A change in this indicator from 5.0 to 6.0 would reflect a 20% increase in overall delay, which would equate to a significant burden on the traveling public in terms of additional travel time costs.
 - Delay includes elements such as recurring delay, incident delay, and signal delay. The strategies identified as part of the scenarios being analyzed can reduce but not eliminate all forms of delay.
 - Operations strategies can reduce the amount of delay caused per incident (crashes, weather events, special events, etc), but will not eliminate all incidents.
- Total Delay (millions of hours) on all Federal-aid Highways
 - This statistic is presented to give a sense of the relative magnitude of delay costs that may be lost by focusing exclusively on average delay. Total delay is projected to rise for all scenarios even at high funding levels, simply because the total population and total vehicle miles of travel are projected to grow significantly over the next 50 years.
- Motor Fuel Consumption (billions of equivalent gallons/yr)
 - This statistic is also projected to rise for all scenarios as a function of population and VMT growth, but would grow more slowly under some scenarios than others. This statistic is meant to be a general measure of energy consumption (hence the word “equivalent”); the scenarios do not make explicit assumptions concerning the power source for motor vehicles in 50 years.

The results through 2020 at current sustainable funding levels are not particularly striking, largely because of the way the scenarios were designed. Scenario 2 and Scenario 5 both assume the implementation of their strategies after the year 2020; hence the statistics for these scenarios are identical to those for scenario 1. No statistics are shown for Scenario 3 and Scenario 4, since these scenarios involve significant expansions to the transportation system; if these were to be pursued at current funding levels, this would make it necessary to divert significant resources away from the current system, which would result in significant declines in the condition and performance of the existing system. The real comparisons to be made here are between the Base Case and scenario 1.

The results through 2020 at the Medium funding levels are slightly more illuminating, as they reflect results from Scenarios 3 (which added a significant amount of new Interstate mileage in support of highway connectivity) and 4 (which added dedicated truck lanes) as well as from Scenario 1. However, it is important to note that only the capital spending and lane-mile additions for Scenario 3 deviate from Scenario 1; the remaining performance statistics apply only to the existing highway system and do not reflect the performance on the newly added routes themselves. This is also the case for Scenario 4; however, in this case the impact of removing trucks from existing highway lanes is reflected in the conditions and performance statistics, and results in a reduced number of new lanes being added to existing highways. Some statistics for Scenario 4 and all statistics for Scenario 5 at the Medium funding level are still under development (identified as “TBD” in the table).

The results through 2020 at the High funding level show some relative advantages of Scenario 1 relative to the Base Case; the scenario is cheaper, adds fewer lane miles, accommodates a bit more traffic and results in some modest reductions in delay.

Scenario Impacts By 2035 (After 30 Years): Highway Conditions and Performance

This table is the most useful of the three highway summary tables, as it reflects the effects of all scenario strategies (including those assumed to have a delayed implementation), at a time when each of the scenarios is sufficiently far along to gauge its impact of the transportations system.

The results through 2035 at the current sustainable funding level give an indication of the relative impacts of the alternative scenarios. At a fixed funding level, Scenario 5 (Maximum Technology) and Scenario 2 (Travel Demand and Energy Efficiency) “come out ahead” in terms of average delay on the overall system while adding fewer lane miles. Scenario 5 accomplishes this through the aggressive use of technology to increase the effective supply (capacity) of the highway system, while Scenario 2 accomplishes this by affecting demand.

The differences between Scenario 1 (Maximum Operations) and Scenario 5 highlight the potential for moving beyond the deployment of the existing operations strategies embodied in Scenario 1 to a more aggressive technological approach encompassing cutting edge operations strategies. However, it is important to note that the 25 percent increase in highway capacity per lane reflected in Scenario 5 is an assumption, rather than a projection of future technological capabilities, and the capital costs associated with this scenario do not include the costs of implementing such technologies. Instead, this scenario is intended to reflect the impact that such technologies could have on performance and other investment in the system.

The results for the medium funding levels show alternative paths for achieving a common performance goal (maintaining average delay on urban principal arterials). The Scenario 2 results suggest that demand-oriented strategies can reduce the price tag for achieving the same goal in terms of system performance (were results for Scenario 5 available, they would presumably show the same for the technology-oriented strategies). It is important to note that Scenario 3 (Aggressive System Expansion) and Scenario 4 (Exclusive Passenger and Freight Facilities) would each contribute to other performance metrics (in terms of connectivity, etc.) that are not reflected in this summary table.

The results for the high funding levels identify the estimated maximum level of investment that would be cost beneficial for each of the scenarios. This is more of a nebulous concept than the dollar constrained (current sustainable funding) or performance constrained (medium funding) levels. In assessing these results, it is important to look at both what is being spent (the average annual capital investment) and what is being achieved (in terms of average delay and other performance indicators).

In comparing any of the results among the scenarios, it is important to note that none of them represent either/or propositions. Each scenario is designed to be illustrative of a certain type of complementary strategies, in order to inform decisionmaking. In designing actual policy recommendations, one could logically opt to combine strategies from multiple scenarios and/or incorporate additional strategies not considered in the scenarios.

Scenario Impacts By 2055 (After 50 Years): Highway Conditions and Performance

The further one looks out into the future, the more speculative one's analysis becomes. Given the degree of uncertainty among the key analytical inputs, the 2055 findings are by their nature less reliable than the 2035 findings.

The results for current sustainable funding levels suggest that a doubling of average delay from the 2005 level, unless aggressive strategies (such as those in Scenarios 2 or 5) are employed to combat it.

In comparing the results for the Medium funding levels, it is important to note that these represent apples-to-oranges in terms of the performance achieved under the different scenarios. Under Scenario 2 (and presumably under Scenario 5, were results available) it is expected to be possible to maintain average delay at 2005 levels through 2055 through a program of cost-beneficial investment, so the Medium funding level was set to accomplish this. However, for the Base Case, Scenario 1, Scenario 3, and Scenario 4, the analysis projected that maintaining average delay at 2005 levels would not be cost beneficial. After a certain point, the cost of acquiring new right of way in densely populated areas to add an ever increasing number of lanes to accommodate an ever-rising population (and corresponding highway travel demand) is projected to rise to the point to which the potential benefits of capacity expansion in many locations would not justify the costs. Consequently, the Medium funding level for these scenarios was simply set at a level between current funding and the high funding level.

The results for the high funding level are somewhat more illustrative, but in comparing the values among the scenarios it is important to consider not only the level of potential cost-beneficial investment under the scenario, but also the level of performance that the scenario achieves.

Scenario Impacts By 2020, 2035 and 2055: Transit

Currently, Scenarios 1, 4 and 5 do not have separate discrete transit components. Consequently, this table omits these columns and instead combines the 2020, 2035 and 2055 transit results for the Base Case, Scenario 2 and Scenario 3 into a single table.

This table (along with the next two tables) includes rows:

- Average Annual Capital Investment (billions of \$2006)
 - This identifies the amount of capital investment assumed for each scenario. In the 1st block, these values are all the same, since a fixed funding level was utilized. In the 2nd and 3rd blocks, these amounts differ, since the Medium and High funding levels were each defined on a performance basis.
- Transit Ridership
 - Ridership is a function of an initial travel forecast and assumptions about shifts from highway to transit under certain conditions. Significant expansion of transit systems is assumed to encourage some additional transit PMT above and beyond the original forecast estimates.
- New Vehicles Added
 - Includes both bus and rail vehicles.
 - The amounts shown reflect cumulative additions to the 2005 level of 112,649 vehicles.
- Rail Route Miles
 - The amounts shown reflect cumulative additions to the 2005 level of 5,458 route miles.
- Average Asset Condition
 - Represents an average rating of transit assets from 1 to 5 (4=“Good”; 3=“Fair”).

Findings for the current sustainable funding level are shown only for the base case, as Scenarios 2 and 3 would both involve expansions to transit capacity that could not be accommodated within current funding. The base case values show a gradual increase in transit ridership from 9.2 billion PMT in 2005 to 11.2 billion in 2020, 14.0 billion in 2035, and 18.1 billion in 2055. A total of 81,300 transit vehicles and 430 new rail route miles would be added over 50 years under the base case. The average condition of transit assets is expected to gradually decline over time at current funding levels.

The results for the Medium funding level highlight the differences between the base case and Scenario 2, a demand-oriented scenario that includes a large shift of highway VMT to transit. Total transit ridership under this scenario would be expected to rise to 66.3 billion under Scenario 2 compared to 19.9 billion in the base case. Accommodating this increase in PMT would require a doubling of average annual transit investment through 2055 (\$40 billion under Scenario 2 rather than \$20 billion under the base case). This increase in spending would translate to significant increases in new vehicles (710,000 in Scenario 2 rather than 120,900 in the base case). The average condition of transit assets would rise (in part because there would be a lot of new transit assets bringing up the averages). Note however, that this funding level would only maintain the performance of transit systems at roughly 2005 levels, rather than improving them.

The results for the High funding level show the differences among the base case, Scenario 2, and Scenario 3. Scenario 3 includes a pattern of investments that are designed specifically to improve transit performance without regard to highways; this differs from Scenario 2 in which transit growth was driven more by highway-related policies. In 2020, the cost of bringing transit systems up to a higher standard of performance under Scenario 3 would be \$32 billion, compared to \$21 billion in the base case. Transit ridership is expected to rise significantly as well in response to the better transit service being provided. By 2055, it is expected that transit ridership at the High funding level would be 71.3 billion under Scenario 3 compared to 70.4 billion in Scenario 2 and 24.0 billion in the base case. Note, however, that the additional increases in ridership under Scenario 3, relative to the base case, are assumed to be driven solely by increases in the supply of transit service. This stands in contrast to Scenario 2, in which additional increases in transit service would be made to accommodate increasing demand for transit driven by highway pricing and other policies aimed at reducing energy consumption. Due to the nature of the data and analytical tools available, the transit system performance measures available are not as robust as would be desirable. However, these findings do give some sense as to the gross level of investment required to accommodate different levels of transit ridership at different levels of system performance.

Funding Tables

This table set consists of a series of six tables as follows:

1. Base Case Scenario – Key Findings: Capital Investment Levels
2. Scenario 1: Maximum Operations – Key Findings: Capital Investment Levels
3. Scenario 2: Travel Demand and Energy Efficiency – Key Findings: Capital Investment Levels
4. Scenario 3: Aggressive System Expansion – Key Findings: Capital Investment Levels
5. Scenario 4: Exclusive Passenger and Freight Facilities – Key Findings: Capital Investment Levels
6. Scenario 5: Maximum Technology – Key Findings: Capital Investment Levels

The columns include blocks of three columns for highways and transit and individual columns for passenger rail, freight rail, and waterways. The values in these later columns are all shown as “TBD” reflecting that data are not yet available for these components of the scenarios. The 3 columns for highways and transit distinguish among the three funding levels that were defined earlier in terms of the summary tables:

- Current Sustainable Funding Levels
- Medium Funding Levels
- High Funding Levels

The rows in the table are separated into 3 blocks covering the:

- 15-year analysis period through 2020
- 30-year analysis period through 2035
- 50-year analysis period through 2055

For each of these blocks three rows of statistics are shown:

- Average Annual Capital Investment (billions of 2006 \$)
 - This is the primary funding figure used in comparing alternatives
- Total Capital Expenditures (billions of 2006 \$)
 - This represents cumulative spending in constant dollar terms, providing a sense for the magnitude of investment required over time
- Total Capital Expenditures (billions of inflated \$)
 - This represents cumulative spending in nominal dollar terms. (While it is appropriate to conduct this type of analysis in constant dollar terms, it is important to recognize that the cumulative result of inflation over time will be to increase the amount of nominal dollars required to achieve any given performance goal).

The tables for Scenarios 1 through 5 also include an additional block identifying the change from the base case for each of the statistics identified above.

Performance Tables

This table set consists of a series of 9 tables covering 15 pages as follows:

- A. Base Case Scenario – Key Findings: Highway Performance Indicators (2 pages)
- B. Base Case Scenario – Key Findings: Transit Performance Indicators (1 page)
- C. Scenario 1: Maximum Operations – Key Findings: Highway Performance Indicators (2 pages)
- D. Scenario 2: Travel Demand and Energy Efficiency – Key Findings: Highway Performance Indicators (2 pages)
- E. Scenario 2: Travel Demand and Energy Efficiency – Key Findings: Transit Performance Indicators (1 page)
- F. Scenario 3: Aggressive System Expansion – Key Findings: Highway Performance Indicators (2 pages)
- G. Scenario 3: Aggressive System Expansion – Key Findings: Transit Performance Indicators (1 page)
- H. Scenario 4: Exclusive Passenger and Freight Facilities – Key Findings: Highway Performance Indicators (2 pages)
- I. Scenario 5: Maximum Technology – Key Findings: Highway Performance Indicators (2 pages)

Highway Performance Indicator Tables

Each of these tables includes separate columns for the three funding levels that were defined earlier in terms of the summary tables:

- Current Sustainable Funding Levels
- Medium Funding Levels
- High Funding Levels

The tables for Scenarios 1 through 5 also include an additional block of three columns identifying the change from the base case for each of the statistics identified below.

The rows in these tables are broken down into major blocks corresponding to different categories of performance measures including:

- Systemwide Measures (Federal-Aid Highways)
 - Lane Miles
 - Shows cumulative lanes added over different time periods
 - VMT on Federal-Aid Highways
 - Shows VMT at different time periods
 - VMT on All roads
 - Used for Safety Analysis
 - Average Delay (hrs/1000 VMT)
 - Shows average delay at different time periods
 - Total Delay (million hours/year)
 - Reflects total delay experienced by all drivers
 - Rises over time as VMT increases
 - Percent of Travel on Roads with Acceptable Ride Quality
- Freight Measures
 - National Highway System Truck statistics (VMT, Average Delay, and Total Delay)
 - All are presently TBD
 - Exclusive Truck Lanes Network
 - Applies to Scenario 4 only
- Metropolitan Mobility Measures
 - Principal Arterials in Urban Areas
 - Lane Miles Added, VMT, Average Delay, Total Delay
 - Represents conditions on most important routes in a wide range of urban areas
 - Major Urbanized Areas (population > 1,000,000)
 - Lane Miles Added, VMT, Average Delay, Total Delay
 - Represents conditions on all roads in the largest urban areas
- Highway Connectivity Measures
 - Federal-aid Highway Rural Lane Miles
 - New Interstate Corridors
 - Applies to Scenario 3 only
 - Cities > 50,000 Not Served by Interstate
 - Applies to Scenario 3 only
- Highway Safety Measures
 - Fatality Rate per 100 million VMT
 - Fatalities
- Energy Consumption Measures
 - Motor Fuel Consumption (billions of gallons/yr)

Transit Performance Indicator Tables

Tables are only included for the Base Case, Scenario 2 and Scenario 3. The remaining scenarios do not presently have a discrete transit component. The tables for Scenarios 2 and 3 also include

an additional block identifying the change from the base case for each of the statistics identified below.

Each of these tables includes separate columns for the three funding levels that were defined earlier in terms of the summary tables:

- Current Sustainable Funding Levels
- Medium Funding Levels
- High Funding Levels

The rows in these tables are broken down into major blocks corresponding to two categories of performance measures including:

- Metropolitan Mobility Measures
 - Revenue Vehicles
 - Rail Stations
 - Rail Route Miles
 - Transit Ridership
 - Average Asset Condition

These indicators (except for rail stations) were described above in the discussion of the summary tables.

Scenario Impacts By 2020 (After 15 Years): Highway Conditions and Performance

	2005 Values	Current Sustainable Funding Levels					
		Base Case	Scenario 1 (a)	Scenario 2 (b)	Scenario 3 (c)	Scenario 4 (d)	Scenario 5 (e)
Average Annual Capital Investment (billions of 2006 \$)		\$68	\$68	\$68	n/a	n/a	\$68
Lane-Miles added to all Federal-Aid Highways (FAH)		59,928	58,215	58,215	n/a	n/a	58,215
Vehicle Miles of Travel (VMT) on all roads (billions)	3,009	4,043	4,054	4,054	n/a	n/a	4,054
Percent of VMT on roads with acceptable ride quality	85%	75%	75%	75%	n/a	n/a	75%
Average Delay (hrs/1000 VMT) on urban principal arterials	5.8	6.9	6.7	6.7	n/a	n/a	6.7
Total Delay (millions of hours) on all FAH	12,204	19,184	18,974	18,974	n/a	n/a	18,974
Motor Fuel Consumption (billions of equivalent gallons/yr)	174.3	225.3	226.3	226.3	n/a	n/a	226.3

	2005 Values	Medium Funding Levels					
		Base Case	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5
Average Annual Capital Investment (billions of 2006 \$)		\$130	\$130	\$130	\$146	\$166	TBD
Lane-Miles added to all Federal-Aid Highways (FAH)		106,653	104,033	104,033	127,433	194,673	TBD
Vehicle Miles of Travel (VMT) on all roads (billions)	3,009	4,140	4,148	4,148	4,148	TBD	TBD
Percent of VMT on roads with acceptable ride quality	85%	86%	85%	85%	85%	85%	TBD
Average Delay (hrs/1000 VMT) on urban principal arterials	5.8	5.3	5.2	5.2	5.2	5.1	TBD
Total Delay (millions of hours) on all FAH	12,204	16,663	16,470	16,470	16,470	TBD	TBD
Motor Fuel Consumption (billions of equivalent gallons/yr)	174.3	231.5	232.3	232.3	232.3	TBD	TBD

	2005 Values	High Funding Levels					
		Base Case	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5
Average Annual Capital Investment (billions of 2006 \$)		\$208	\$207	\$207	\$222	\$240	\$207
Lane-Miles added to all Federal-Aid Highways (FAH)		162,368	159,728	159,728	183,128	247,196	159,728
Vehicle Miles of Travel (VMT) on all roads (billions)	3,009	4,263	4,269	4,269	4,269	TBD	4,269
Percent of VMT on roads with acceptable ride quality	85%	94%	94%	94%	94%	94%	94%
Average Delay (hrs/1000 VMT) on urban principal arterials	5.8	4.2	4.1	4.1	4.1	4.1	4.1
Total Delay (millions of hours) on all FAH	12,204	15,047	14,827	14,827	14,827	TBD	14,827
Motor Fuel Consumption (billions of equivalent gallons/yr)	174.3	229.8	230.5	230.5	230.5	TBD	230.5

Scenario Impacts By 2035 (After 30 Years): Highway Conditions and Performance

	2005 Values	Current Sustainable Funding Levels					
		Base Case	Scenario 1 (a)	Scenario 2 (b)	Scenario 3 (c)	Scenario 4 (d)	Scenario 5 (e)
Average Annual Capital Investment (billions of 2006 \$)		\$68	\$68	\$68	n/a	n/a	\$68
Lane-Miles added to all Federal-Aid Highways (FAH)		128,280	126,151	120,045	n/a	n/a	100,049
Vehicle Miles of Travel (VMT) on all roads (billions)	3,009	5,027	5,049	4,929	n/a	n/a	5,162
Percent of VMT on roads with acceptable ride quality	85%	66%	66%	70%	n/a	n/a	70%
Average Delay (hrs/1000 VMT) on urban principal arterials	5.8	8.7	8.7	7.6	n/a	n/a	6.7
Total Delay (millions of hours) on all FAH	12,204	28,782	28,823	25,147	n/a	n/a	24,612
Motor Fuel Consumption (billions of equivalent gallons/yr)	174.3	258.5	259.6	251.5	n/a	n/a	264.9

	2005 Values	Medium Funding Levels					
		Base Case	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5
Average Annual Capital Investment (billions of 2006 \$)		\$159	\$158	\$133	\$174	\$188	TBD
Lane-Miles added to all Federal-Aid Highways (FAH)		261,254	255,264	225,944	302,064	425,493	TBD
Vehicle Miles of Travel (VMT) on all roads (billions)	3,009	5,347	5,363	5,227	5,363	TBD	TBD
Percent of VMT on roads with acceptable ride quality	85%	87%	87%	86%	87%	86%	TBD
Average Delay (hrs/1000 VMT) on urban principal arterials	5.8	5.8	5.8	5.8	5.8	5.8	TBD
Total Delay (millions of hours) on all FAH	12,204	23,535	23,492	22,304	23,492	TBD	TBD
Motor Fuel Consumption (billions of equivalent gallons/yr)	174.3	272.8	274.2	267.3	274.2	TBD	TBD

	2005 Values	High Funding Levels					
		Base Case	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5
Average Annual Capital Investment (billions of 2006 \$)		\$218	\$220	\$182	\$235	\$250	\$176
Lane-Miles added to all Federal-Aid Highways (FAH)		342,153	340,719	296,954	387,519	508,738	233,664
Vehicle Miles of Travel (VMT) on all roads (billions)	3,009	5,581	5,597	5,463	5,597	TBD	5,639
Percent of VMT on roads with acceptable ride quality	85%	93%	93%	92%	93%	93%	93%
Average Delay (hrs/1000 VMT) on urban principal arterials	5.8	5.2	5.1	5.0	5.1	5.0	4.1
Total Delay (millions of hours) on all FAH	12,204	22,850	22,544	20,938	22,544	TBD	19,597
Motor Fuel Consumption (billions of equivalent gallons/yr)	174.3	273.0	274.3	266.2	274.3	TBD	278.6

Scenario Impacts By 2055 (After 50 Years): Highway Conditions and Performance

	2005 Values	Current Sustainable Funding Levels					
		Base Case	Scenario 1 (a)	Scenario 2 (b)	Scenario 3 (c)	Scenario 4 (d)	Scenario 5 (e)
Average Annual Capital Investment (billions of 2006 \$)		\$68	\$68	\$68	n/a	n/a	\$68
Lane-Miles added to all Federal-Aid Highways (FAH)		230,275	226,465	215,426	n/a	n/a	175,464
Vehicle Miles of Travel (VMT) on all roads (billions)	3,009	6,560	6,598	6,154	n/a	n/a	6,928
Percent of VMT on roads with acceptable ride quality	85%	58%	57%	63%	n/a	n/a	63%
Average Delay (hrs/1000 VMT) on urban principal arterials	5.8	11.6	11.6	6.8	n/a	n/a	8.9
Total Delay (millions of hours) on all FAH	12,204	46,465	46,802	28,273	n/a	n/a	40,028
Motor Fuel Consumption (billions of equivalent gallons/yr)	174.3	304.6	306.4	283.4	n/a	n/a	319.7

	2005 Values	Medium Funding Levels					
		Base Case	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5
Average Annual Capital Investment (billions of 2006 \$)		\$178	\$178	\$146	\$188	\$195	TBD
Lane-Miles added to all Federal-Aid Highways (FAH)		503,303	496,321	452,411	543,121	650,356	TBD
Vehicle Miles of Travel (VMT) on all roads (billions)	3,009	7,398	7,429	6,890	7,429	TBD	TBD
Percent of VMT on roads with acceptable ride quality	85%	84%	84%	83%	84%	84%	TBD
Average Delay (hrs/1000 VMT) on urban principal arterials	5.8	7.8	7.8	5.7	7.8	7.4	TBD
Total Delay (millions of hours) on all FAH	12,204	39,372	39,441	27,668	39,441	TBD	TBD
Motor Fuel Consumption (billions of equivalent gallons/yr)	174.3	338.5	340.0	318.6	340.0	TBD	TBD

	2005 Values	High Funding Levels					
		Base Case	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5
Average Annual Capital Investment (billions of 2006 \$)		\$259	\$263	\$185	\$272	\$276	\$214
Lane-Miles added to all Federal-Aid Highways (FAH)		699,758	700,239	568,646	747,039	839,694	506,014
Vehicle Miles of Travel (VMT) on all roads (billions)	3,009	7,884	7,923	7,315	7,923	TBD	8,031
Percent of VMT on roads with acceptable ride quality	85%	90%	91%	85%	91%	91%	92%
Average Delay (hrs/1000 VMT) on urban principal arterials	5.8	6.5	6.4	5.6	6.4	6.2	5.5
Total Delay (millions of hours) on all FAH	12,204	37,311	36,967	29,031	36,967	TBD	33,446

Scenario Impacts By 2020, 2035 and 2055: Transit

	2005 Values	Current Sustainable Funding Levels								
		2020 Values			2035 Values			2055 Values		
		Base Case	Scenario 2 (b)	Scenario 3 (c)	Base Case	Scenario 2 (b)	Scenario 3 (c)	Base Case	Scenario 2 (b)	Scenario 3 (c)
Average Annual Capital Investment (billions of 2006 \$)		\$13	n/a	n/a	\$13	n/a	n/a	\$13	n/a	n/a
Transit Ridership (billions)	9.2	11.2	n/a	n/a	14.0	n/a	n/a	18.1	n/a	n/a
New Vehicles Added (cumulative)		18,200	n/a	n/a	45,600	n/a	n/a	81,300	n/a	n/a
New Rail Route Miles (cumulative)		105	n/a	n/a	250	n/a	n/a	430	n/a	n/a
Average Asset Condition (scale 1-5)	3.86	3.66	n/a	n/a	3.56	n/a	n/a	3.46	n/a	n/a

	2005 Values	Medium Funding Levels								
		2020 Values			2035 Values			2055 Values		
		Base Case	Scenario 2	Scenario 3	Base Case	Scenario 2	Scenario 3	Base Case	Scenario 2	Scenario 3
Average Annual Capital Investment (billions of 2006 \$)		\$14	\$18	n/a	\$17	\$25	n/a	\$20	\$40	n/a
Transit Ridership (billions)	9.2	11.5	13.8	n/a	14.9	25.1	n/a	19.9	66.3	n/a
New Vehicles Added (cumulative)		26,400	50,800	n/a	66,200	186,200	n/a	120,900	710,000	n/a
New Rail Route Miles (cumulative)		1,100	1,525	n/a	2,435	3,545	n/a	4,605	6,730	n/a
Average Asset Condition (scale 1-5)	3.86	4.02	3.97	n/a	4.13	4.19	n/a	4.17	4.39	n/a

	2005 Values	High Funding Levels								
		2020 Values			2035 Values			2055 Values		
		Base Case	Scenario 2	Scenario 3	Base Case	Scenario 2	Scenario 3	Base Case	Scenario 2	Scenario 3
Average Annual Capital Investment (billions of 2006 \$)		\$21	\$25	\$32	\$23	\$31	\$34	\$26	\$46	\$38
Transit Ridership (billions)	9.2	12.8	15.0	17.4	17.4	27.6	34.9	24.0	70.4	71.3
New Vehicles Added (cumulative)		50,700	75,100	96,100	111,900	231,800	197,100	194,200	783,400	330,000
New Rail Route Miles (cumulative)		2,980	3,410	4,440	5,510	6,620	7,960	9,140	11,260	12,450
Average Asset Condition (scale 1-5)	3.86	4.04	4.11	4.12	4.15	4.28	4.20	4.18	4.41	4.18

Scenario Definitions:

- (a) Maximum Operations
- (b) Travel Demand and Energy Efficiency
- (c) Aggressive System Expansion
- (d) Exclusive Passenger and Freight Facilities
- (e) Maximum Technology

Base Case Scenario
Key Findings: Capital Investment Levels

	Highways			Transit			Passenger Rail ⁷	Freight Rail ⁸	Waterways ⁹
	Current ¹	Medium ²	High ³	Current ⁴	Medium ⁵	High ⁶			
15-year Analysis (2005-2020)									
Average Annual Capital Investment (billions of 2006 \$)	\$68	\$130	\$208	\$13	\$14	\$21	TBD	TBD	TBD
Total Capital Expenditures (billions of 2006 \$)	\$1,018	\$1,952	\$3,115	\$197	\$217	\$320	TBD	TBD	TBD
Total Capital Expenditures (billions of inflated \$)	\$1,170	\$2,244	\$3,500	\$226	\$254	\$375	TBD	TBD	TBD
30-year Analysis (2005-2035)									
Average Annual Capital Investment (billions of 2006 \$)	\$68	\$159	\$218	\$13	\$17	\$23	TBD	TBD	TBD
Total Capital Expenditures (billions of 2006 \$)	\$2,035	\$4,760	\$6,536	\$393	\$510	\$694	TBD	TBD	TBD
Total Capital Expenditures (billions of inflated \$)	\$2,716	\$6,511	\$8,734	\$525	\$710	\$959	TBD	TBD	TBD
50-year Analysis (2005-2055)									
Average Annual Capital Investment (billions of 2006 \$)	\$68	\$178	\$259	\$13	\$20	\$26	TBD	TBD	TBD
Total Capital Expenditures (billions of 2006 \$)	\$3,392	\$8,887	\$12,950	\$655	\$1,012	\$1,321	TBD	TBD	TBD
Total Capital Expenditures (billions of inflated \$)	\$5,591	\$15,256	\$22,379	\$1,080	\$1,829	\$2,354	TBD	TBD	TBD

1\ Current sustainable funding based on Federal Highway Trust Fund revenue forecasts

2\ This funding level would be sufficient to at least maintain key indicators of highway condition and performance over 15- and 30-years

3\ This funding level would be sufficient to implement all cost-beneficial highway improvements

4\ Current sustainable funding based on Federal Highway Trust Fund (Mass Transit Account) forecasts

5\ This funding level would maintain conditions and performance on transit systems in urbanized areas

6\ This funding level would improve conditions and performance on transit systems in urbanized areas

7\

8\

9\

**Scenario 1: Maximum Operations
Key Findings: Capital Investment Levels**

	Highways			Transit			Passenger Rail ⁷	Freight Rail ⁸	Inland Waterways ⁹
	Current ¹	Medium ²	High ³	Current ⁴	Medium ⁵	High ⁶			
15-year Analysis (2005-2020)									
Average Annual Capital Investment (billions of 2006 \$)	\$68	\$130	\$207	\$13	\$14	\$21	TBD	TBD	TBD
Total Capital Expenditures (billions of 2006 \$)	\$1,018	\$1,949	\$3,101	\$197	\$217	\$320	TBD	TBD	TBD
Total Capital Expenditures (billions of inflated \$)	\$1,170	\$2,242	\$3,490	\$226	\$254	\$375	TBD	TBD	TBD
30-year Analysis (2005-2035)									
Average Annual Capital Investment (billions of 2006 \$)	\$68	\$158	\$220	\$13	\$17	\$23	TBD	TBD	TBD
Total Capital Expenditures (billions of 2006 \$)	\$2,035	\$4,735	\$6,591	\$393	\$510	\$694	TBD	TBD	TBD
Total Capital Expenditures (billions of inflated \$)	\$2,716	\$6,477	\$8,832	\$525	\$710	\$959	TBD	TBD	TBD
50-year Analysis (2005-2055)									
Average Annual Capital Investment (billions of 2006 \$)	\$68	\$178	\$263	\$13	\$20	\$26	TBD	TBD	TBD
Total Capital Expenditures (billions of 2006 \$)	\$3,392	\$8,905	\$13,153	\$655	\$1,012	\$1,321	TBD	TBD	TBD
Total Capital Expenditures (billions of inflated \$)	\$5,591	\$15,312	\$22,800	\$1,080	\$1,829	\$2,354	TBD	TBD	TBD

1\ Current sustainable funding based on Federal Highway Trust Fund revenue forecasts

2\ This funding level would be sufficient to at least maintain key indicators of highway condition and performance over 15- and 30-years

3\ This funding level would be sufficient to implement all cost-beneficial highway improvements

4\ Current sustainable funding based on Federal Highway Trust Fund (Mass Transit Account) forecasts

5\ This funding level would maintain conditions and performance on transit systems in urbanized areas

6\ This funding level would improve conditions and performance on transit systems in urbanized areas

7\

8\

9\

Change from Base

	Highways			Transit			Passenger Rail ⁷	Freight Rail ⁸	Inland Waterways ⁹
	Current ¹	Medium ²	High ³	Current ⁴	Medium ⁵	High ⁶			
15-year Analysis (2005-2020)									
Average Annual Capital Investment (billions of 2006 \$)	\$0	(\$0.2)	(\$0.9)	\$0	\$0	\$0	TBD	TBD	TBD
Total Capital Expenditures (billions of 2006 \$)	\$0	(\$3)	(\$13)	\$0	\$0	\$0	TBD	TBD	TBD
Total Capital Expenditures (billions of inflated \$)	\$0	(\$2)	(\$10)	\$0	\$0	\$0	TBD	TBD	TBD
30-year Analysis (2005-2035)									
Average Annual Capital Investment (billions of 2006 \$)	\$0	(\$0.8)	\$1.8	\$0	\$0	\$0	TBD	TBD	TBD
Total Capital Expenditures (billions of 2006 \$)	\$0	(\$24)	\$55	\$0	\$0	\$0	TBD	TBD	TBD
Total Capital Expenditures (billions of inflated \$)	\$0	(\$33)	\$98	\$0	\$0	\$0	TBD	TBD	TBD
50-year Analysis (2005-2055)									
Average Annual Capital Investment (billions of 2006 \$)	\$0	\$0.4	\$4.1	\$0	\$0	\$0	TBD	TBD	TBD
Total Capital Expenditures (billions of 2006 \$)	\$0	\$19	\$203	\$0	\$0	\$0	TBD	TBD	TBD
Total Capital Expenditures (billions of inflated \$)	\$0	\$56	\$421	\$0	\$0	\$0	TBD	TBD	TBD

**Scenario 2: Travel Demand and Energy Efficiency
Key Findings: Capital Investment Levels**

	Highways			Transit			Passenger Rail ⁷	Freight Rail ⁸	Inland Waterways ⁹
	Current ¹	Medium ²	High ³	Current ⁴	Medium ⁵	High ⁶			
15-year Analysis (2005-2020)									
Average Annual Capital Investment (billions of 2006 \$)	\$68	\$130	\$207	n/a	\$18	\$25	TBD	TBD	TBD
Total Capital Expenditures (billions of 2006 \$)	\$1,018	\$1,949	\$3,101	n/a	\$274	\$376	TBD	TBD	TBD
Total Capital Expenditures (billions of inflated \$)	\$1,170	\$2,242	\$3,490	n/a	\$321	\$441	TBD	TBD	TBD
30-year Analysis (2005-2035)									
Average Annual Capital Investment (billions of 2006 \$)	\$68	\$133	\$182	n/a	\$25	\$31	TBD	TBD	TBD
Total Capital Expenditures (billions of 2006 \$)	\$2,035	\$3,999	\$5,462	n/a	\$741	\$923	TBD	TBD	TBD
Total Capital Expenditures (billions of inflated \$)	\$2,716	\$5,359	\$7,080	n/a	\$1,055	\$1,300	TBD	TBD	TBD
50-year Analysis (2005-2055)									
Average Annual Capital Investment (billions of 2006 \$)	\$68	\$146	\$185	n/a	\$40	\$46	TBD	TBD	TBD
Total Capital Expenditures (billions of 2006 \$)	\$3,392	\$7,321	\$9,257	n/a	\$1,991	\$2,294	TBD	TBD	TBD
Total Capital Expenditures (billions of inflated \$)	\$5,591	\$12,397	\$15,146	n/a	\$3,909	\$4,421	TBD	TBD	TBD

1\ Current sustainable funding based on Federal Highway Trust Fund revenue forecasts

2\ This funding level would be sufficient to at least maintain key indicators of highway condition and performance over 15- and 30-years

3\ This funding level would be sufficient to implement all cost-beneficial highway improvements

4\ Current sustainable funding based on Federal Highway Trust Fund (Mass Transit Account) forecasts

5\ This funding level would maintain conditions and performance on transit systems in urbanized areas

6\ This funding level would improve conditions and performance on transit systems in urbanized areas

7\

8\

9\

Change from Base

	Highways			Transit			Passenger Rail ⁷	Freight Rail ⁸	Inland Waterways ⁹
	Current ¹	Medium ²	High ³	Current ⁴	Medium ⁵	High ⁶			
15-year Analysis (2005-2020)									
Average Annual Capital Investment (billions of 2006 \$)	\$0	(\$0.2)	(\$0.9)	n/a	\$4	\$4	TBD	TBD	TBD
Total Capital Expenditures (billions of 2006 \$)	\$0	(\$3)	(\$13)	n/a	\$57	\$56	TBD	TBD	TBD
Total Capital Expenditures (billions of inflated \$)	\$0	(\$2)	(\$10)	n/a	\$67	\$67	TBD	TBD	TBD
30-year Analysis (2005-2035)									
Average Annual Capital Investment (billions of 2006 \$)	\$0	(\$25.3)	(\$35.8)	n/a	\$8	\$8	TBD	TBD	TBD
Total Capital Expenditures (billions of 2006 \$)	\$0	(\$760)	(\$1,074)	n/a	\$231	\$229	TBD	TBD	TBD
Total Capital Expenditures (billions of inflated \$)	\$0	(\$1,152)	(\$1,654)	n/a	\$345	\$342	TBD	TBD	TBD
50-year Analysis (2005-2055)									
Average Annual Capital Investment (billions of 2006 \$)	\$0	(\$31.3)	(\$73.8)	n/a	\$20	\$19	TBD	TBD	TBD
Total Capital Expenditures (billions of 2006 \$)	\$0	(\$1,565)	(\$3,692)	n/a	\$979	\$973	TBD	TBD	TBD
Total Capital Expenditures (billions of inflated \$)	\$0	(\$2,859)	(\$7,233)	n/a	\$2,080	\$2,067	TBD	TBD	TBD

**Scenario 3: Aggressive System Expansion
Key Findings: Capital Investment Levels**

	Highways			Transit			Passenger Rail ⁷	Freight Rail ⁸	Inland Waterways ⁹
	Current ¹	Medium ²	High ³	Current ⁴	Medium ⁵	High ⁶			
15-year Analysis (2005-2020)									
Average Annual Capital Investment (billions of 2006 \$)	n/a	\$146	\$222	n/a	n/a	\$32	TBD	TBD	TBD
Total Capital Expenditures (billions of 2006 \$)	n/a	\$2,184	\$3,337	n/a	n/a	\$479	TBD	TBD	TBD
Total Capital Expenditures (billions of inflated \$)	n/a	\$2,513	\$3,754	n/a	n/a	\$562	TBD	TBD	TBD
30-year Analysis (2005-2035)									
Average Annual Capital Investment (billions of 2006 \$)	n/a	\$174	\$235	n/a	n/a	\$34	TBD	TBD	TBD
Total Capital Expenditures (billions of 2006 \$)	n/a	\$5,206	\$7,062	n/a	n/a	\$1,025	TBD	TBD	TBD
Total Capital Expenditures (billions of inflated \$)	n/a	\$7,121	\$9,463	n/a	n/a	\$1,413	TBD	TBD	TBD
50-year Analysis (2005-2055)									
Average Annual Capital Investment (billions of 2006 \$)	n/a	\$188	\$272	n/a	n/a	\$38	TBD	TBD	TBD
Total Capital Expenditures (billions of 2006 \$)	n/a	\$9,376	\$13,623	n/a	n/a	\$1,890	TBD	TBD	TBD
Total Capital Expenditures (billions of inflated \$)	n/a	\$16,121	\$23,616	n/a	n/a	\$3,336	TBD	TBD	TBD

1\ Current sustainable funding based on Federal Highway Trust Fund revenue forecasts

2\ This funding level would be sufficient to at least maintain key indicators of highway condition and performance over 15- and 30-years

3\ This funding level would be sufficient to implement all cost-beneficial highway improvements

4\ Current sustainable funding based on Federal Highway Trust Fund (Mass Transit Account) forecasts

5\ This funding level would maintain conditions and performance on transit systems in urbanized areas

6\ This funding level would improve conditions and performance on transit systems in urbanized areas

7\

8\

9\

Change from Base

	Highways			Transit			Passenger Rail ⁷	Freight Rail ⁸	Inland Waterways ⁹
	Current ¹	Medium ²	High ³	Current ⁴	Medium ⁵	High ⁶			
15-year Analysis (2005-2020)									
Average Annual Capital Investment (billions of 2006 \$)	n/a	\$15.5	\$14.8	n/a	n/a	\$11	TBD	TBD	TBD
Total Capital Expenditures (billions of 2006 \$)	n/a	\$232	\$222	n/a	n/a	\$159	TBD	TBD	TBD
Total Capital Expenditures (billions of inflated \$)	n/a	\$269	\$255	n/a	n/a	\$187	TBD	TBD	TBD
30-year Analysis (2005-2035)									
Average Annual Capital Investment (billions of 2006 \$)	n/a	\$14.9	\$17.5	n/a	n/a	\$11	TBD	TBD	TBD
Total Capital Expenditures (billions of 2006 \$)	n/a	\$447	\$526	n/a	n/a	\$330	TBD	TBD	TBD
Total Capital Expenditures (billions of inflated \$)	n/a	\$611	\$729	n/a	n/a	\$454	TBD	TBD	TBD
50-year Analysis (2005-2055)									
Average Annual Capital Investment (billions of 2006 \$)	n/a	\$9.8	\$13.5	n/a	n/a	\$11	TBD	TBD	TBD
Total Capital Expenditures (billions of 2006 \$)	n/a	\$489	\$674	n/a	n/a	\$569	TBD	TBD	TBD
Total Capital Expenditures (billions of inflated \$)	n/a	\$865	\$1,237	n/a	n/a	\$982	TBD	TBD	TBD

Scenario 4: Exclusive Passenger and Freight Facilities
Key Findings: Capital Investment Levels

	Highways			Transit			Passenger Rail ⁷	Freight Rail ⁸	Inland Waterways ⁹
	Current ¹	Medium ²	High ³	Current ⁴	Medium ⁵	High ⁶			
15-year Analysis (2005-2020)									
Average Annual Capital Investment (billions of 2006 \$)	n/a	\$166	\$240	\$13	\$14	\$21	TBD	TBD	TBD
Total Capital Expenditures (billions of 2006 \$)	n/a	\$2,495	\$3,596	\$197	\$217	\$320	TBD	TBD	TBD
Total Capital Expenditures (billions of inflated \$)	n/a	\$2,871	\$4,062	\$226	\$254	\$375	TBD	TBD	TBD
30-year Analysis (2005-2035)									
Average Annual Capital Investment (billions of 2006 \$)	n/a	\$188	\$250	\$13	\$17	\$23	TBD	TBD	TBD
Total Capital Expenditures (billions of 2006 \$)	n/a	\$5,638	\$7,507	\$393	\$510	\$694	TBD	TBD	TBD
Total Capital Expenditures (billions of inflated \$)	n/a	\$7,647	\$10,036	\$525	\$710	\$959	TBD	TBD	TBD
50-year Analysis (2005-2055)									
Average Annual Capital Investment (billions of 2006 \$)	n/a	\$195	\$276	\$13	\$20	\$26	TBD	TBD	TBD
Total Capital Expenditures (billions of 2006 \$)	n/a	\$9,741	\$13,807	\$655	\$1,012	\$1,321	TBD	TBD	TBD
Total Capital Expenditures (billions of inflated \$)	n/a	\$16,340	\$23,455	\$1,080	\$1,829	\$2,354	TBD	TBD	TBD

1\ Current sustainable funding based on Federal Highway Trust Fund revenue forecasts

2\ This funding level would be sufficient to at least maintain key indicators of highway condition and performance over 15- and 30-years

3\ This funding level would be sufficient to implement all cost-beneficial highway improvements **and build the exclusive truck lanes network**

4\ Current sustainable funding based on Federal Highway Trust Fund (Mass Transit Account) forecasts

5\ This funding level would maintain conditions and performance on transit systems in urbanized areas

6\ This funding level would improve conditions and performance on transit systems in urbanized areas

7\

8\

9\

Change from Base

	Highways			Transit			Passenger Rail ⁷	Freight Rail ⁸	Inland Waterways ⁹
	Current ¹	Medium ²	High ³	Current ⁴	Medium ⁵	High ⁶			
15-year Analysis (2005-2020)									
Average Annual Capital Investment (billions of 2006 \$)	n/a	\$36.2	\$32.1	\$0	\$0	\$0	TBD	TBD	TBD
Total Capital Expenditures (billions of 2006 \$)	n/a	\$543	\$481	\$0	\$0	\$0	TBD	TBD	TBD
Total Capital Expenditures (billions of inflated \$)	n/a	\$626	\$563	\$0	\$0	\$0	TBD	TBD	TBD
30-year Analysis (2005-2035)									
Average Annual Capital Investment (billions of 2006 \$)	n/a	\$29.3	\$32.4	\$0	\$0	\$0	TBD	TBD	TBD
Total Capital Expenditures (billions of 2006 \$)	n/a	\$879	\$971	\$0	\$0	\$0	TBD	TBD	TBD
Total Capital Expenditures (billions of inflated \$)	n/a	\$1,136	\$1,302	\$0	\$0	\$0	TBD	TBD	TBD
50-year Analysis (2005-2055)									
Average Annual Capital Investment (billions of 2006 \$)	n/a	\$17.1	\$17.1	\$0	\$0	\$0	TBD	TBD	TBD
Total Capital Expenditures (billions of 2006 \$)	n/a	\$854	\$857	\$0	\$0	\$0	TBD	TBD	TBD
Total Capital Expenditures (billions of inflated \$)	n/a	\$1,084	\$1,077	\$0	\$0	\$0	TBD	TBD	TBD

**Scenario 5: Maximum Technology
Key Findings: Capital Investment Levels**

	Highways			Transit			Passenger Rail ⁷	Freight Rail ⁸	Inland Waterways ⁹
	Current ¹	Medium ²	High ³	Current ⁴	Medium ⁵	High ⁶			
15-year Analysis (2005-2020)									
Average Annual Capital Investment (billions of 2006 \$)	\$68	TBD	\$207	\$13	\$14	\$21	TBD	TBD	TBD
Total Capital Expenditures (billions of 2006 \$)	\$1,018	TBD	\$3,101	\$197	\$217	\$320	TBD	TBD	TBD
Total Capital Expenditures (billions of inflated \$)	\$1,170	TBD	\$3,490	\$226	\$254	\$375	TBD	TBD	TBD
30-year Analysis (2005-2035)									
Average Annual Capital Investment (billions of 2006 \$)	\$68	TBD	\$176	\$13	\$17	\$23	TBD	TBD	TBD
Total Capital Expenditures (billions of 2006 \$)	\$2,035	TBD	\$5,269	\$393	\$510	\$694	TBD	TBD	TBD
Total Capital Expenditures (billions of inflated \$)	\$2,716	TBD	\$6,868	\$525	\$710	\$959	TBD	TBD	TBD
50-year Analysis (2005-2055)									
Average Annual Capital Investment (billions of 2006 \$)	\$68	TBD	\$214	\$13	\$20	\$26	TBD	TBD	TBD
Total Capital Expenditures (billions of 2006 \$)	\$3,392	TBD	\$10,694	\$655	\$1,012	\$1,321	TBD	TBD	TBD
Total Capital Expenditures (billions of inflated \$)	\$5,591	TBD	\$18,474	\$1,080	\$1,829	\$2,354	TBD	TBD	TBD

1\ Current sustainable funding based on Federal Highway Trust Fund revenue forecasts

2\ This funding level would be sufficient to at least maintain key indicators of highway condition and performance over 15- and 30-years

3\ This funding level would be sufficient to implement all cost-beneficial highway improvements

4\ Current sustainable funding based on Federal Highway Trust Fund (Mass Transit Account) forecasts

5\ This funding level would maintain conditions and performance on transit systems in urbanized areas

6\ This funding level would improve conditions and performance on transit systems in urbanized areas

7\

8\

9\

Change from Base

	Highways			Transit			Passenger Rail ⁷	Freight Rail ⁸	Inland Waterways ⁹
	Current ¹	Medium ²	High ³	Current ⁴	Medium ⁵	High ⁶			
15-year Analysis (2005-2020)									
Average Annual Capital Investment (billions of 2006 \$)	\$0	TBD	(\$0.9)	\$0	\$0	\$0	TBD	TBD	TBD
Total Capital Expenditures (billions of 2006 \$)	\$0	TBD	(\$13)	\$0	\$0	\$0	TBD	TBD	TBD
Total Capital Expenditures (billions of inflated \$)	\$0	TBD	(\$10)	\$0	\$0	\$0	TBD	TBD	TBD
30-year Analysis (2005-2035)									
Average Annual Capital Investment (billions of 2006 \$)	\$0	TBD	(\$42.2)	\$0	\$0	\$0	TBD	TBD	TBD
Total Capital Expenditures (billions of 2006 \$)	\$0	TBD	(\$1,267)	\$0	\$0	\$0	TBD	TBD	TBD
Total Capital Expenditures (billions of inflated \$)	\$0	TBD	(\$1,866)	\$0	\$0	\$0	TBD	TBD	TBD
50-year Analysis (2005-2055)									
Average Annual Capital Investment (billions of 2006 \$)	\$0	TBD	(\$45.1)	\$0	\$0	\$0	TBD	TBD	TBD
Total Capital Expenditures (billions of 2006 \$)	\$0	TBD	(\$2,255)	\$0	\$0	\$0	TBD	TBD	TBD
Total Capital Expenditures (billions of inflated \$)	\$0	TBD	(\$3,905)	\$0	\$0	\$0	TBD	TBD	TBD

Base Case Scenario
Key Findings: Highway Performance Indicators

	Funding Level		
	Current	Medium	High
SYSTEM-WIDE MEASURES (FEDERAL-AID HIGHWAYS ONLY)			
Lane Miles			
Base Year (2005) Lane-Miles	2,335,393	2,335,393	2,335,393
Lane-Miles Added			
2005-2020	59,928	106,653	162,368
2005-2035	128,280	261,254	342,153
2005-2055	230,275	503,303	699,758
Highway Travel			
VMT on Federal-Aid Highways (billions)			
2005 (base year)	2,554	2,554	2,554
2020	3,431	3,513	3,618
2035	4,266	4,537	4,736
2055	5,567	6,277	6,690
VMT on All Roads (billions)			
2005 (base year)	3,009	3,009	3,009
2020	4,043	4,140	4,263
2035	5,027	5,347	5,581
2055	6,560	7,398	7,884
Delay			
Average Delay (hrs/1000 VMT)			
2005 (base year)	4.8	4.8	4.8
2020	5.6	4.7	4.2
2035	6.7	5.2	4.8
2055	8.3	6.3	5.6
Total Delay (million hours/year)			
2005 (base year)	12,204	12,204	12,204
2020	19,184	16,663	15,047
2035	28,782	23,535	22,850
2055	46,465	39,372	37,311
Ride Quality			
Percent of All Travel on Roads with Acceptable Ride Quality			
2005 (base year)	85.5	85.5	85.5
2020	74.9	85.5	93.7
2035	66.1	87.4	93.1
2055	57.6	84.3	90.3
PERFORMANCE MEASURES BY STRATEGY CATEGORY			
FREIGHT			
National Highway System			
VMT Trucks (billions)			
2005 (base year)	TBD	TBD	TBD
2020	TBD	TBD	TBD
2035	TBD	TBD	TBD
2055	TBD	TBD	TBD
Average Delay Trucks (hrs/1000 VMT)			
2005 (base year)	TBD	TBD	TBD
2020	TBD	TBD	TBD
2035	TBD	TBD	TBD
2055	TBD	TBD	TBD
Total Delay Trucks (million hours/year)			
2005 (base year)	TBD	TBD	TBD
2020	TBD	TBD	TBD
2035	TBD	TBD	TBD
2055	TBD	TBD	TBD
Exclusive Truck Lanes Network			
Lane-Miles			
METROPOLITAN MOBILITY			
Principal Arterials in Urban Areas			
Lane-Miles			
Base Year (2005) Lane-Miles	351,473	351,473	351,473
Lane-Miles Added			
2005-2020	27,697	51,521	78,358
2005-2035	57,156	119,580	153,249
2005-2055	94,685	215,060	284,125
VMT (billions)			
2005 (base year)	1,156	1,156	1,156
2020	1,536	1,591	1,652
2035	1,891	2,064	2,167
2055	2,406	2,849	3,059
Average Delay (hrs/1000 VMT)			
2005	5.8	5.8	5.8
2020	6.9	5.3	4.2
2035	8.7	5.8	5.2
2055	11.6	7.8	6.5
Pct Change 2005-2020	18.9%	-8.4%	-27.0%
Pct Change 2005-2035	51.3%	0.8%	-9.9%
Pct Change 2005-2055	100.9%	34.3%	13.2%
Total Delay (million hrs/yr)			
2005	6,676	6,676	6,676

**Base Case Scenario
Key Findings: Highway Performance Indicators**

	Funding Level		
2020	10,548	8,412	6,959
2035	16,521	12,018	11,278
2055	27,910	22,088	19,989
Pct Change 2005-2020	58.0%	26.0%	4.2%
Pct Change 2005-2035	147.5%	80.0%	68.9%
Pct Change 2005-2055	318.0%	230.8%	199.4%
Major Urbanized Areas (population over 1 million)			
Lane-Miles (All Functional Classes)			
Base Year (2005) Lane-Miles	328,785	328,785	328,785
Lane-Miles Added			
2005-2020	15,247	36,339	60,263
2005-2035	29,386	82,681	115,082
2005-2055	43,259	144,555	206,894
VMT (billions)			
2005 (base year)	911	911	911
2020	1,188	1,241	1,296
2035	1,421	1,590	1,686
2055	1,737	2,160	2,352
Average Delay (hrs/1000 VMT)			
2005	7.8	7.8	7.8
2020	9.5	7.6	6.3
2035	12.0	8.5	7.7
2055	15.5	10.9	9.5
Pct Change 2005-2020	22.6%	-1.9%	-19.2%
Pct Change 2005-2035	54.2%	9.7%	-0.7%
Pct Change 2005-2055	99.7%	40.7%	21.8%
Total Delay (million hrs/yr)			
2005	7,075	7,075	7,075
2020	11,309	9,448	8,133
2035	17,021	13,551	12,994
2055	26,947	23,604	22,252
Pct Change 2005-2020	59.9%	33.5%	15.0%
Pct Change 2005-2035	140.6%	91.5%	83.7%
Pct Change 2005-2055	280.9%	233.6%	214.5%
HIGHWAY CONNECTIVITY			
Federal-Aid Highways Rural Lane Miles			
Base Year (2005) Rural Lane-Miles	1,499,805	1,499,805	1,499,805
Lane-Miles Added			
2005-2020	16,062	25,044	35,109
2005-2035	40,519	70,636	90,720
2005-2055	87,374	156,164	227,396
Additional Connectivity: New Interstates			
Freight Connections			
New Geography Connections			
Cities >50,000 Not Served by Interstate			
2005 (base year)	70	70	70
2020	70	70	70
2035	70	70	70
2055	70	70	70
HIGHWAY SAFETY 1/			
Fatality Rate per 100M VMT			
2005 (base year)	1.45	1.45	1.45
2020	1.17	1.06	0.99
2035	0.94	0.76	0.67
2055	0.70	0.49	0.41
Fatalities			
2005 (base year)	43,400	43,400	43,400
2020	47,300	43,700	42,200
2035	47,300	40,500	37,600
2055	45,900	36,200	32,000
ENERGY CONSUMPTION			
Motor Fuel Consumption (billions of gallons/yr)			
2005 (base year)	174	174	174
2020	225	231	230
2035	258	273	273
2055	305	339	346

1/ Safety performance measures were calculated independently of the HERS analysis. Fatality measures are assigned to Current, Medium, and High funding levels for each scenario based on the assumptions of the scenarios and the "level of effort" implied by the funding levels. It is important to note that the attainment of aggressive safety objectives is not necessarily contingent on the full funding of each scenario, although it is clear that attainment of a higher safety level would require a higher level funding than would a lower level.

Base Case Scenario
Key Findings: Transit Performance Indicators

	Funding Level		
	Current	Medium	High
PERFORMANCE MEASURES BY STRATEGY CATEGORY			
METROPOLITAN MOBILITY			
Infrastructure			
Revenue Vehicles			
Base Year (2005)	112,649	112,649	112,649
New Vehicles			
2005-2020	18,224	26,356	50,701
2005-2035	45,637	66,169	111,854
2005-2055	81,290	120,908	194,249
Rail Stations			
Base Year (2005)	2,980	2,980	2,980
New Stations			
2005-2020	126	691	1,835
2005-2035	300	1,575	3,480
2005-2055	516	2,934	5,756
Rail Route Miles			
Base Year (2005)	5,458	5,458	5,458
New Route Miles			
2005-2020	105	1,095	2,983
2005-2035	250	2,435	5,509
2005-2055	430	4,605	9,141
Transit Ridership (billions)			
2005 (base year)	9,190	9,190	9,190
2020	11,155	11,546	12,830
2035	13,993	14,900	17,409
2055	18,060	19,917	24,009
Average Asset Condition			
2005 (base year)	3.86	3.86	3.86
2020	3.66	4.02	4.04
2035	3.56	4.13	4.15
2055	3.46	4.17	4.18
TRANSIT SAFETY			
Fatality Rate per 100M VMT			
2005 (base year)	TBD	TBD	TBD
2020	TBD	TBD	TBD
2035	TBD	TBD	TBD
2055	TBD	TBD	TBD
Fatalities			
2005 (base year)	TBD	TBD	TBD
2020	TBD	TBD	TBD
2035	TBD	TBD	TBD
2055	TBD	TBD	TBD

Scenario 1: Maximum Operations
Key Findings: Highway Performance Indicators

	Funding Level			Change from Base Case		
	Current	Medium	High	Current	Medium	High
SYSTEM-WIDE MEASURES (FEDERAL-AID HIGHWAYS ONLY)						
Lane Miles						
Base Year (2005) Lane-Miles	2,335,393	2,335,393	2,335,393			
Lane-Miles Added						
2005-2020	58,215	104,033	159,728	(1,713)	(2,620)	(2,640)
2005-2035	126,151	255,264	340,719	(2,129)	(5,990)	(1,434)
2005-2055	226,465	496,321	700,239	(3,810)	(6,982)	481
Highway Travel						
VMT (billions)						
2005 (base year)	2,554	2,554	2,554			
2020	3,440	3,520	3,623	9	7	5
2035	4,285	4,551	4,749	19	14	13
2055	5,599	6,304	6,724	32	27	34
VMT on All Roads (billions)						
2005 (base year)	3,009	3,009	3,009			
2020	4,054	4,148	4,269	11	8	6
2035	5,049	5,363	5,597	22	16	16
2055	6,598	7,429	7,923	38	32	40
Delay						
Average Delay (hrs/1000 VMT)						
2005 (base year)	4.8	4.8	4.8			
2020	5.5	4.7	4.1	(0)	(0)	(0)
2035	6.7	5.2	4.7	(0)	(0)	(0)
2055	8.4	6.3	5.5	0	(0)	(0)
Total Delay(million hours/year)						
2005 (base year)	12,204	12,204	12,204			
2020	18,974	16,470	14,827	(210)	(193)	(220)
2035	28,823	23,492	22,544	41	(43)	(306)
2055	46,802	39,441	36,967	338	68	(344)
Ride Quality						
Percent of All Travel on Roads with Acceptable Ride Quality						
2005 (base year)	85.5	85.5	85.5			
2020	75.0	85.5	93.7	0	(0)	(0)
2035	65.9	86.9	93.0	(0)	(0)	(0)
2055	57.1	83.9	90.6	(1)	(0)	0
PERFORMANCE MEASURES BY STRATEGY CATEGORY						
FREIGHT						
National Highway System						
VMT Trucks (billions)						
2005 (base year)	TBD	TBD	TBD			
2020	TBD	TBD	TBD			
2035	TBD	TBD	TBD			
2055	TBD	TBD	TBD			
Average Delay Trucks (hrs/1000 VMT)						
2005 (base year)	TBD	TBD	TBD			
2020	TBD	TBD	TBD			
2035	TBD	TBD	TBD			
2055	TBD	TBD	TBD			
Total Delay Trucks (million hours/year)						
2005 (base year)	TBD	TBD	TBD			
2020	TBD	TBD	TBD			
2035	TBD	TBD	TBD			
2055	TBD	TBD	TBD			
Exclusive Truck Lanes Network						
Lane-Miles						
METROPOLITAN MOBILITY						
Principal Arterials in Urban Areas						
Lane-Miles						
Base Year (2005) Lane-Miles	351,473	351,473	351,473			
Lane-Miles Added						
2005-2020	26,487	49,605	75,943	(1,210)	(1,916)	(2,415)
2005-2035	55,455	115,926	151,408	(1,701)	(3,654)	(1,841)
2005-2055	92,241	210,650	282,795	(2,444)	(4,410)	(1,330)
VMT (billions)						
2005 (base year)	1,156	1,156	1,156	-	-	-
2020	1,544	1,596	1,655	7	5	4
2035	1,904	2,074	2,177	13	10	10
2055	2,428	2,866	3,082	22	18	23
Average Delay (hrs/1000 VMT)						
2005	5.8	5.8	5.8	-	-	-
2020	6.7	5.2	4.1	(0)	(0)	(0)
2035	8.7	5.8	5.1	0	(0)	(0)
2055	11.6	7.8	6.4	0	0	(0)
Pct Change 2005-2020	16.4%	-10.3%	-28.8%			
Pct Change 2005-2035	51.3%	0.6%	-11.7%			
Pct Change 2005-2055	101.4%	34.4%	11.5%			
Total Delay (million hrs/yr)						
2005	6,676	6,676	6,676	-	-	-
2020	10,378	8,266	6,811	(170)	(146)	(147)

Scenario 1: Maximum Operations
Key Findings: Highway Performance Indicators

	Funding Level			Change from Base Case		
	2005	2020	2035	2005-2020	2005-2035	2005-2055
2035	16,638	12,047	11,105	117	29	(173)
2055	28,240	22,255	19,848	330	167	(141)
Pct Change 2005-2020	55%	24%	2%			
Pct Change 2005-2035	149%	80%	66%			
Pct Change 2005-2055	323%	233%	197%			
Major Urbanized Areas (population over 1 million)						
Lane-Miles (All Functional Classes)						
Base Year (2005) Lane-Miles	328,785	328,785	328,785			
Lane-Miles Added						
2005-2020	14,849	35,373	59,318	(398)	(966)	(945)
2005-2035	29,158	81,205	114,843	(228)	(1,476)	(239)
2005-2055	43,055	143,026	209,425	(204)	(1,529)	2,531
VMT (billions)						
2005 (base year)	911	911	911			
2020	1,194	1,245	1,299	6	4	3
2035	1,432	1,598	1,694	11	8	9
2055	1,755	2,174	2,375	17	14	22
Average Delay (hrs/1000 VMT)						
2005	7.8	7.8	7.8			
2020	9.4	7.5	6.2	(0.1)	(0.1)	(0.1)
2035	11.9	8.5	7.6	(0.0)	(0.0)	(0.1)
2055	15.5	10.9	9.3	(0.0)	(0.0)	(0.2)
Pct Change 2005-2020	20.9%	-3.1%	-20.5%			
Pct Change 2005-2035	53.7%	9.5%	-2.4%			
Pct Change 2005-2055	99.4%	40.5%	19.8%			
Total Delay (million hrs/yr)						
2005	7,075	7,075	7,075			
2020	11,213	9,372	8,019	(97)	(76)	(114)
2035	17,096	13,591	12,837	75	39	(157)
2055	27,181	23,721	22,094	235	118	(158)
Pct Change 2005-2020	58.5%	32.5%	13.3%			
Pct Change 2005-2035	141.7%	92.1%	81.4%			
Pct Change 2005-2055	284.2%	235.3%	212.3%			
HIGHWAY CONNECTIVITY						
Federal-Aid Highways Rural Lane Miles						
Base Year (2005) Rural Lane-Miles	1,499,805	1,499,805	1,499,805			
Lane-Miles Added						
2005-2020	15,802	24,687	34,934	(260)	(357)	(175)
2005-2035	40,076	68,985	90,758	(443)	(1,651)	38
2005-2055	85,953	154,132	226,973	(1,421)	(2,032)	(423)
Additional Connectivity: New Interstates						
Freight Connections						
New Geography Connections						
Cities >50,000 Not Served by Interstate						
2005 (base year)	70	70	70			
2020	70	70	70			
2035	70	70	70			
2055	70	70	70			
HIGHWAY SAFETY 1/						
Fatality Rate per 100M VMT						
2005 (base year)	1.45	1.45	1.45			
2020	1.17	0.98	0.91			
2035	0.94	0.64	0.56			
2055	0.70	0.37	0.29			
Fatalities						
2005 (base year)	43,400	43,400	43,400			
2020	47,400	40,500	38,800			
2035	47,500	34,400	31,300			
2055	46,200	27,400	23,000			
ENERGY CONSUMPTION						
Motor Fuel Consumption (billions of gallons/yr)						
2005 (base year)	174	174	174			
2020	226	232	231	1	1	1
2035	260	274	274	1	1	1
2055	306	340	348	2	1	2

1/ Safety performance measures were calculated independently of the HERS analysis. Fatality measures are assigned to Current, Medium, and High funding levels for each scenario based on the assumptions of the scenarios and the "level of effort" implied by the funding levels. It is important to note that the attainment of aggressive safety objectives is not necessarily contingent on the full funding of each scenario, although it is clear that attainment of a higher safety level would require a higher level funding than would a lower level.

**Scenario 2: Travel Demand and Energy Efficiency
Key Findings: Highway Performance Indicators**

	Funding Level			Change from Base Case		
	Current	Medium	High	Current	Medium	High
SYSTEM-WIDE MEASURES (FEDERAL-AID HIGHWAYS ONLY)						
Lane Miles						
Base Year (2005) Lane-Miles	2,335,393	2,335,393	2,335,393			
Lane-Miles Added						
2005-2020	58,215	104,033	159,728	(1,713)	(2,620)	(2,640)
2005-2035	120,045	225,944	296,954	(8,235)	(35,310)	(45,199)
2005-2055	215,426	452,411	568,646	(14,849)	(50,892)	(131,112)
Highway Travel						
VMT (billions)						
2005 (base year)	2,554	2,554	2,554			
2020	3,440	3,520	3,623	9	7	5
2035	4,183	4,436	4,635	(83)	(101)	(100)
2055	5,222	5,847	6,207	(344)	(430)	(483)
VMT on All Roads (billions)						
2005 (base year)	3,009	3,009	3,009			
2020	4,054	4,148	4,269	11	8	6
2035	4,929	5,227	5,463	(98)	(119)	(118)
2055	6,154	6,890	7,315	(406)	(507)	(569)
Delay						
Average Delay (hrs/1000 VMT)						
2005 (base year)	4.8	4.8	4.8			
2020	5.5	4.7	4.1	(0.1)	(0.1)	(0.1)
2035	6.0	5.0	4.5	(0.7)	(0.2)	(0.3)
2055	5.4	4.7	4.7	(2.9)	(1.5)	(0.9)
Total Delay(million hours/year)						
2005 (base year)	12,204	12,204	12,204			
2020	18,974	16,470	14,827	(210)	(193)	(220)
2035	25,147	22,304	20,938	(3,635)	(1,231)	(1,912)
2055	28,273	27,668	29,031	(18,191)	(11,704)	(8,280)
Ride Quality						
Percent of All Travel on Roads with Acceptable Ride Quality						
2005 (base year)	85.5	85.5	85.5			
2020	75.0	85.5	93.7	0.0	(0.1)	(0.0)
2035	69.7	86.4	91.8	3.5	(0.9)	(1.3)
2055	62.8	83.1	85.1	5.2	(1.2)	(5.3)
PERFORMANCE MEASURES BY STRATEGY CATEGORY						
FREIGHT						
National Highway System						
VMT Trucks (billions)						
2005 (base year)	TBD	TBD	TBD			
2020	TBD	TBD	TBD			
2035	TBD	TBD	TBD			
2055	TBD	TBD	TBD			
Average Delay Trucks (hrs/1000 VMT)						
2005 (base year)	TBD	TBD	TBD			
2020	TBD	TBD	TBD			
2035	TBD	TBD	TBD			
2055	TBD	TBD	TBD			
Total Delay Trucks (million hours/year)						
2005 (base year)	TBD	TBD	TBD			
2020	TBD	TBD	TBD			
2035	TBD	TBD	TBD			
2055	TBD	TBD	TBD			
Exclusive Truck Lanes Network						
Lane-Miles						
METROPOLITAN MOBILITY						
Principal Arterials in Urban Areas						
Lane-Miles						
Base Year (2005) Lane-Miles	351,473	351,473	351,473			
Lane-Miles Added						
2005-2020	26,487	49,605	75,943	(1,210)	(1,916)	(2,415)
2005-2035	46,043	93,962	125,920	(11,113)	(25,618)	(27,329)
2005-2055	70,043	160,295	199,998	(24,642)	(54,765)	(84,127)
VMT (billions)						
2005 (base year)	1,156	1,156	1,156	-	-	-
2020	1,544	1,596	1,655	7	5	4
2035	1,820	1,983	2,093	(71)	(82)	(74)
2055	2,119	2,501	2,689	(287)	(348)	(370)
Average Delay (hrs/1000 VMT)						
2005	5.8	5.8	5.8	-	-	-
2020	6.7	5.2	4.1	(0.1)	(0.1)	(0.1)
2035	7.6	5.8	5.0	(1.1)	(0.0)	(0.2)
2055	6.8	5.7	5.6	(4.8)	(2.1)	(0.9)
Pct Change 2005-2020	16.4%	-10.3%	-28.8%			
Pct Change 2005-2035	32.1%	0.6%	-14.0%			
Pct Change 2005-2055	17.7%	-2.1%	-3.0%			
Total Delay (million hrs/yr)						
2005	6,676	6,676	6,676	-	-	-
2020	10,378	8,266	6,811	(170)	(146)	(147)

**Scenario 2: Travel Demand and Energy Efficiency
Key Findings: Highway Performance Indicators**

	Funding Level			Change from Base Case		
2035	13,879	11,520	10,400	(2,641)	(498)	(878)
2055	14,399	14,144	15,058	(13,511)	(7,944)	(4,931)
Pct Change 2005-2020	55.5%	23.8%	2.0%			
Pct Change 2005-2035	107.9%	72.6%	55.8%			
Pct Change 2005-2055	115.7%	111.9%	125.5%			
Major Urbanized Areas (population over 1 million)						
Lane-Miles (All Functional Classes)						
Base Year (2005) Lane-Miles	328,785	328,785	328,785			
Lane-Miles Added						
2005-2020	14,849	35,373	59,318	(398)	(966)	(945)
2005-2035	25,266	61,709	89,571	(4,120)	(20,972)	(25,511)
2005-2055	35,130	100,278	131,405	(8,129)	(44,277)	(75,489)
VMT (billions)						
2005 (base year)	911	911	911			
2020	1,194	1,245	1,299	6	4	3
2035	1,361	1,506	1,604	(61)	(84)	(81)
2055	1,522	1,832	1,985	(215)	(327)	(367)
Average Delay (hrs/1000 VMT)						
2005	7.8	7.8	7.8			
2020	9.4	7.5	6.2	(0.1)	(0.1)	(0.1)
2035	10.3	8.4	7.2	(1.6)	(0.2)	(0.5)
2055	9.0	7.9	7.9	(6.5)	(3.1)	(1.6)
Pct Change 2005-2020	20.9%	-3.1%	-20.5%			
Pct Change 2005-2035	33.1%	7.6%	-7.5%			
Pct Change 2005-2055	15.8%	1.4%	1.3%			
Total Delay (million hrs/yr)						
2005	7,075	7,075	7,075			
2020	11,213	9,372	8,019	(97)	(76)	(114)
2035	14,061	12,588	11,530	(2,960)	(963)	(1,463)
2055	13,688	14,433	15,614	(13,258)	(9,170)	(6,637)
Pct Change 2005-2020	58.5%	32.5%	13.3%			
Pct Change 2005-2035	98.8%	77.9%	63.0%			
Pct Change 2005-2055	93.5%	104.0%	120.7%			
HIGHWAY CONNECTIVITY						
Federal-Aid Highways Rural Lane Miles						
Base Year (2005) Rural Lane-Miles	1,499,805	1,499,805	1,499,805			
Lane-Miles Added						
2005-2020	15,802	24,687	34,934	(260)	(357)	(175)
2005-2035	43,731	70,666	88,353	3,212	30	(2,367)
2005-2055	97,325	176,178	221,391	9,951	20,014	(6,005)
Additional Connectivity: New Interstates						
Freight Connections						
New Geography Connections						
Cities >50,000 Not Served by Interstate						
2005 (base year)	70	70	70			
2020	70	70	70			
2035	70	70	70			
2055	70	70	70			
HIGHWAY SAFETY 1/						
Fatality Rate per 100M VMT						
2005 (base year)	1.45	1.45	1.45			
2020	1.17	0.98	0.91			
2035	0.94	0.64	0.56			
2055	0.70	0.37	0.29			
Fatalities						
2005 (base year)	43,600	43,600	43,600			
2020	47,400	40,500	38,800			
2035	46,300	33,600	30,600			
2055	43,100	25,400	21,200			
ENERGY CONSUMPTION						
Motor Fuel Consumption (billions of gallons/yr)						
2005 (base year)	174	174	174			
2020	226	232	231	1	1	1
2035	252	267	266	(7)	(6)	(7)
2055	283	319	321	(21)	(20)	(25)

1/ Safety performance measures were calculated independently of the HERS analysis. Fatality measures are assigned to Current, Medium, and High funding levels for each scenario based on the assumptions of the scenarios and the "level of effort" implied by the funding levels. It is important to note that the attainment of aggressive safety objectives is not necessarily contingent on the full funding of each scenario, although it is clear that attainment of a higher safety level would require a higher level funding than would a lower level.

**Scenario 2: Travel Demand and Energy Efficiency
Key Findings: Transit Performance Indicators**

PERFORMANCE MEASURES BY STRATEGY CATEGORY	Funding Level			Change from Base Case		
	Current	Medium	High	Current	Medium	High
METROPOLITAN MOBILITY						
Infrastructure						
Revenue Vehicles						
Base Year (2005)		112,649	112,649			
New Vehicles						
2005-2020		50,769	75,114	24,413	24,413	
2005-2035		186,162	231,847	119,993	119,993	
2005-2055		710,012	783,353	589,104	589,104	
Rail Stations						
Base Year (2005)		2,980	2,980			
New Stations						
2005-2020		2,160	3,304	1,469	1,469	
2005-2035		4,088	5,993	2,513	2,513	
2005-2055		7,001	9,823	4,067	4,067	
Rail Route Miles						
Base Year (2005)		5,458	5,458			
New Route Miles						
2005-2020		1,525	3,413	430	430	
2005-2035		3,545	6,619	1,110	1,110	
2005-2055		6,725	11,261	2,120	2,120	
Transit Ridership (billions)						
2005 (base year)		9,190	9,190			
2020		13,764	15,048	2,218	2,218	
2035		25,112	27,620	10,211	10,211	
2055		66,317	70,408	46,399	46,399	
Average Asset Condition						
2005 (base year)		3.86	3.86			
2020		3.97	4.11	(0.05)	0.07	
2035		4.19	4.28	0.06	0.13	
2055		4.39	4.41	0.22	0.23	
TRANSIT SAFETY						
Fatality Rate per 100M VMT						
2005 (base year)	TBD	TBD	TBD			
2020	TBD	TBD	TBD			
2035	TBD	TBD	TBD			
2055	TBD	TBD	TBD			
Fatalities						
2005 (base year)	TBD	TBD	TBD			
2020	TBD	TBD	TBD			
2035	TBD	TBD	TBD			
2055	TBD	TBD	TBD			

Scenario 3: Aggressive System Expansion
Key Findings: Highway Performance Indicators

	Funding Level			Change from Base Case		
	Current	Medium	High	Current	Medium	High
SYSTEM-WIDE MEASURES (FEDERAL-AID HIGHWAYS ONLY)						
Lane Miles						
Base Year (2005) Lane-Miles		2,335,393	2,335,393			
Lane-Miles Added						
2005-2020		127,433	183,128		20,780	20,760
2005-2035		302,064	387,519		40,810	45,366
2005-2055		543,121	747,039		39,818	47,281
Highway Travel						
VMT (billions)						
2005 (base year)	2,554	2,554	2,554			
2020	3,440	3,520	3,623		7	5
2035	4,285	4,551	4,749		14	13
2055	5,599	6,304	6,724		27	34
VMT on All Roads (billions)						
2005 (base year)	3,009	3,009	3,009			
2020	4,054	4,148	4,269		8	6
2035	5,049	5,363	5,597		16	16
2055	6,598	7,429	7,923		32	40
Delay						
Average Delay (hrs/1000 VMT)						
2005 (base year)		4.8	4.8			
2020		4.7	4.1		(0.1)	(0.1)
2035		5.2	4.7		(0.0)	(0.1)
2055		6.3	5.5		(0.0)	(0.1)
Total Delay(million hours/year)						
2005 (base year)		12,204	12,204			
2020		16,470	14,827		(193)	(220)
2035		23,492	22,544		(43)	(306)
2055		39,441	36,967		68	(344)
Ride Quality						
Percent of All Travel on Roads with Acceptable Ride Quality						
2005 (base year)		85.5	85.5			
2020		85.5	93.7		(0.1)	(0.0)
2035		86.9	93.0		(0.4)	(0.1)
2055		83.9	90.6		(0.4)	0.2
PERFORMANCE MEASURES BY STRATEGY CATEGORY						
FREIGHT						
National Highway System						
VMT Trucks (billions)						
2005 (base year)		TBD	TBD			
2020		TBD	TBD			
2035		TBD	TBD			
2055		TBD	TBD			
Average Delay Trucks (hrs/1000 VMT)						
2005 (base year)		TBD	TBD			
2020		TBD	TBD			
2035		TBD	TBD			
2055		TBD	TBD			
Total Delay Trucks (million hours/year)						
2005 (base year)		TBD	TBD			
2020		TBD	TBD			
2035		TBD	TBD			
2055		TBD	TBD			
Exclusive Truck Lanes Network						
Lane-Miles						
METROPOLITAN MOBILITY						
Principal Arterials in Urban Areas						
Lane-Miles						
Base Year (2005) Lane-Miles		351,473	351,473			
Lane-Miles Added						
2005-2020		49,605	75,943		(1,916)	(2,415)
2005-2035		115,926	151,408		(3,654)	(1,841)
2005-2055		210,650	282,795		(4,410)	(1,330)
VMT (billions)						
2005 (base year)		1,156	1,156		-	-
2020		1,596	1,655		5	4
2035		2,074	2,177		10	10
2055		2,866	3,082		18	23
Average Delay (hrs/1000 VMT)						
2005		5.8	5.8		-	-
2020		5.2	4.1		(0.1)	(0.1)
2035		5.8	5.1		(0.0)	(0.1)
2055		7.8	6.4		0.0	(0.1)
Pct Change 2005-2020		-10.3%	-28.8%			
Pct Change 2005-2035		0.6%	-11.7%			
Pct Change 2005-2055		34.4%	11.5%			
Total Delay (million hrs/yr)						
2005		6,676	6,676		-	-
2020		8,266	6,811		(146)	(147)

Scenario 3: Aggressive System Expansion
Key Findings: Highway Performance Indicators

	Funding Level			Change from Base Case		
2035		12,047	11,105		29	(173)
2055		22,255	19,848		167	(141)
Pct Change 2005-2020		24%	2%			
Pct Change 2005-2035		80%	66%			
Pct Change 2005-2055		233%	197%			
Major Urbanized Areas (population over 1 million)						
Lane-Miles (All Functional Classes)						
Base Year (2005) Lane-Miles		328,785	328,785			
Lane-Miles Added						
2005-2020		35,373	59,318		(966)	(945)
2005-2035		81,205	114,843		(1,476)	(239)
2005-2055		143,026	209,425		(1,529)	2,531
VMT (billions)						
2005 (base year)		911	911			
2020		1,245	1,299		4	3
2035		1,598	1,694		8	9
2055		2,174	2,375		14	22
Average Delay (hrs/1000 VMT)						
2005		7.8	7.8			
2020		7.5	6.2		(0.1)	(0.1)
2035		8.5	7.6		(0.0)	(0.1)
2055		10.9	9.5		-	-
Pct Change 2005-2020		-3.1%	-20.5%			
Pct Change 2005-2035		9.5%	-2.4%			
Pct Change 2005-2055		40.7%	21.8%			
Total Delay (million hrs/yr)						
2005		7,075	7,075			
2020		9,372	8,019		(76)	(114)
2035		13,591	12,837		39	(157)
2055		23,760	22,464		157	213
Pct Change 2005-2020		32.5%	13.3%			
Pct Change 2005-2035		92.1%	81.4%			
Pct Change 2005-2055		235.9%	217.5%			
HIGHWAY CONNECTIVITY						
Federal-Aid Highways Rural Lane Miles						
Base Year (2005) Rural Lane-Miles		1,499,805	1,499,805			
Lane-Miles Added						
2005-2020		24,687	34,934		(357)	(175)
2005-2035		68,985	90,758		(1,651)	38
2005-2055		154,132	226,973		(2,032)	(423)
Additional Connectivity: New Interstate Lane Miles						
Freight Connections		32,300	32,300			
New Geography Connections		14,500	14,500			
Cities >50,000 Not Served by Interstate						
2005 (base year)						
2020		35	35			
2035		0	0			
2055		0	0			
HIGHWAY SAFETY 1/						
Fatality Rate per 100M VMT						
2005 (base year)		1.45	1.45		-	-
2020		1.17	0.88		(0)	(0)
2035		0.94	0.53		(0)	(0)
2055		0.70	0.27		(0)	(0)
Fatalities						
2005 (base year)		43,600	43,600		200	200
2020		47,400	36,500		100	(6,800)
2035		47,500	28,400		200	(12,400)
2055		46,200	20,100		300	(16,200)
ENERGY CONSUMPTION						
Motor Fuel Consumption (billions of gallons/yr)						
2005 (base year)		174	174		-	-
2020		232	231		0.9	0.7
2035		274	274		1.3	1.3
2055		340	348		1.5	1.7

1/ Safety performance measures were calculated independently of the HERS analysis. Fatality measures are assigned to Current, Medium, and High funding levels for each scenario based on the assumptions of the scenarios and the "level of effort" implied by the funding levels. It is important to note that the attainment of aggressive safety objectives is not necessarily contingent on the full funding of each scenario, although it is clear that attainment of a higher safety level would require a higher level funding than would a lower level.

Scenario 3: Aggressive System Expansion
Key Findings: Transit Performance Indicators

PERFORMANCE MEASURES BY STRATEGY CATEGORY	Funding Level			Change from Base Case		
	Current	Medium	High	Current	Medium	High
METROPOLITAN MOBILITY						
Infrastructure						
Revenue Vehicles						
Base Year (2005)			112,649			
New Vehicles						
2005-2020			96,121			45,420
2005-2035			197,074			85,220
2005-2055			330,020			135,771
Rail Stations						
Base Year (2005)			2,980			
New Stations						
2005-2020			4,345			2,509
2005-2035			7,692			4,212
2005-2055			11,742			5,986
Rail Route Miles						
Base Year (2005)			5,458			
New Route Miles						
2005-2020			4,440			1,457
2005-2035			7,964			2,454
2005-2055			12,449			3,309
Transit Ridership (billions)						
2005 (base year)			9,190			
2020			17,437			4,607
2035			34,933			17,524
2055			71,300			47,292
Average Asset Condition						
2005 (base year)			3.86			
2020			4.12			0.08
2035			4.20			0.05
2055			4.18			-
TRANSIT SAFETY						
Fatality Rate per 100M VMT						
2005 (base year)			TBD			
2020			TBD			
2035			TBD			
2055			TBD			
Fatalities						
2005 (base year)			TBD			
2020			TBD			
2035			TBD			
2055			TBD			

Scenario 4: Exclusive Passenger and Freight Facilities
Key Findings: Highway Performance Indicators

	Funding Level			Change from Base Case		
	Current	Medium	High	Current	Medium	High
SYSTEM-WIDE MEASURES (FEDERAL-AID HIGHWAYS ONLY)						
Lane Miles						
Base Year (2005) Lane-Miles		2,335,393	2,335,393			
Lane-Miles Added						
2005-2020		194,673	247,196	88,020	84,828	
2005-2035		425,493	508,738	164,239	166,585	
2005-2055		650,356	839,694	147,053	139,936	
Highway Travel						
VMT (billions)						
2005 (base year)		TBD	TBD			
2020		TBD	TBD	TBD	TBD	
2035		TBD	TBD	TBD	TBD	
2055		TBD	TBD	TBD	TBD	
VMT on All Roads (billions)						
2005 (base year)		TBD	TBD	TBD	TBD	
2020		TBD	TBD	TBD	TBD	
2035		TBD	TBD	TBD	TBD	
2055		TBD	TBD	TBD	TBD	
Delay						
Average Delay (hrs/1000 VMT)						
2005 (base year)		4.8	4.8			
2020		4.6	4.1	(0.1)	(0.1)	
2035		5.1	4.7	(0.1)	(0.1)	
2055		6.1	5.3	(0.2)	(0.2)	
Total Delay(million hours/year)						
2005 (base year)		TBD	TBD			
2020		TBD	TBD	TBD	TBD	
2035		TBD	TBD	TBD	TBD	
2055		TBD	TBD	TBD	TBD	
Ride Quality						
Percent of All Travel on Roads with Acceptable Ride Quality						
2005 (base year)		85.5	85.5			
2020		85.5	93.6	(0.1)	(0.2)	
2035		86.4	92.9	(0.9)	(0.2)	
2055		84.5	91.1	0.2	0.7	
PERFORMANCE MEASURES BY STRATEGY CATEGORY						
FREIGHT						
National Highway System						
VMT Trucks (billions)						
2005 (base year)		TBD	TBD			
2020		TBD	TBD			
2035		TBD	TBD			
2055		TBD	TBD			
Average Delay Trucks (hrs/1000 VMT)						
2005 (base year)		TBD	TBD			
2020		TBD	TBD			
2035		TBD	TBD			
2055		TBD	TBD			
Total Delay Trucks (million hours/year)						
2005 (base year)		TBD	TBD			
2020		TBD	TBD			
2035		TBD	TBD			
2055		TBD	TBD			
Exclusive Truck Lanes Network						
Lane-Miles						
		187,078	187,078			
METROPOLITAN MOBILITY						
Principal Arterials in Urban Areas						
Lane-Miles						
Base Year (2005) Lane-Miles		351,473	351,473			
Lane-Miles Added						
2005-2020		55,832	81,092	4,311	2,734	
2005-2035		124,253	159,432	4,673	6,183	
2005-2055		216,277	285,021	1,217	896	
VMT (billions)						
2005 (base year)		TBD	TBD	TBD	TBD	
2020		TBD	TBD	TBD	TBD	
2035		TBD	TBD	TBD	TBD	
2055		TBD	TBD	TBD	TBD	
Average Delay (hrs/1000 VMT)						
2005		5.8	5.8	-	-	
2020		5.1	4.1	(0.2)	(0.1)	
2035		5.8	5.0	(0.0)	(0.2)	
2055		7.4	6.2	(0.3)	(0.4)	
Pct Change 2005-2020		-12.4%	-29.6%			
Pct Change 2005-2035		0.0%	-13.0%			
Pct Change 2005-2055		28.8%	7.1%			
Total Delay (million hrs/yr)						
2005		TBD	TBD	TBD	TBD	
2020		TBD	TBD	TBD	TBD	
2035		TBD	TBD	TBD	TBD	
2055		TBD	TBD	TBD	TBD	
Pct Change 2005-2020		TBD	TBD			

Scenario 4: Exclusive Passenger and Freight Facilities
Key Findings: Highway Performance Indicators

	Funding Level		Change from Base Case	
	TBD	TBD		
Pct Change 2005-2035	TBD	TBD		
Pct Change 2005-2055	TBD	TBD		
Major Urbanized Areas (population over 1 million)				
Lane-Miles (All Functional Classes)				
Base Year (2005) Lane-Miles	328,785	328,785		
Lane-Miles Added				
2005-2020	34,821	57,305	(1,518)	(2,958)
2005-2035	76,573	109,646	(6,108)	(5,436)
2005-2055	137,611	199,867	(6,944)	(7,027)
VMT (billions)				
2005 (base year)	TBD	TBD		
2020	TBD	TBD	TBD	TBD
2035	TBD	TBD	TBD	TBD
2055	TBD	TBD	TBD	TBD
Average Delay (hrs/1000 VMT)				
2005	7.8	7.8		
2020	7.4	6.1	(0)	(0)
2035	8.5	7.5	(0)	(0)
2055	10.5	9.0	(0)	(0)
Pct Change 2005-2020	-5.1%	-21%		
Pct Change 2005-2035	8.8%	-4%		
Pct Change 2005-2055	35.4%	16%		
Total Delay (million hrs/yr)				
2005	TBD	TBD		
2020	TBD	TBD	TBD	TBD
2035	TBD	TBD	TBD	TBD
2055	TBD	TBD	TBD	TBD
Pct Change 2005-2020	TBD	TBD		
Pct Change 2005-2035	TBD	TBD		
Pct Change 2005-2055	TBD	TBD		
HIGHWAY CONNECTIVITY				
Federal-Aid Highways Rural Lane Miles				
Base Year (2005) Rural Lane-Miles	1,499,805	1,499,805		
Lane-Miles Added				
2005-2020	56,011	65,528	30,967	30,419
2005-2035	95,531	115,947	24,895	25,227
2005-2055	171,689	237,343	15,525	9,947
Additional Connectivity: New Interstates				
Freight Connections				
New Geography Connections				
Cities >50,000 Not Served by Interstate				
2005 (base year)	70	70		
2020	70	70		
2035	70	70		
2055	70	70		
HIGHWAY SAFETY 1/				
Fatality Rate per 100M VMT				
2005 (base year)	TBD	TBD	TBD	TBD
2020	TBD	TBD	TBD	TBD
2035	TBD	TBD	TBD	TBD
2055	TBD	TBD	TBD	TBD
Fatalities				
2005 (base year)	TBD	TBD	TBD	TBD
2020	TBD	TBD	TBD	TBD
2035	TBD	TBD	TBD	TBD
2055	TBD	TBD	TBD	TBD
ENERGY CONSUMPTION				
Motor Fuel Consumption (billions of gallons/yr)				
2005 (base year)	TBD	TBD	TBD	TBD
2020	TBD	TBD	TBD	TBD
2035	TBD	TBD	TBD	TBD
2055	TBD	TBD	TBD	TBD

1/ Safety performance measures were calculated independently of the HERS analysis. Fatality measures are assigned to Current, Medium, and High funding levels for each scenario based on the assumptions of the scenarios and the "level of effort" implied by the funding levels. It is important to note that the attainment of aggressive safety objectives is not necessarily contingent on the full funding of each scenario, although it is clear that attainment of a higher safety level would require a higher level funding than would a lower level.

Scenario 5: Maximum Technology
Key Findings: Highway Performance Indicators

	Funding Level			Change from Base Case		
	Current	Medium	High	Current	Medium	High
SYSTEM-WIDE MEASURES (FEDERAL-AID HIGHWAYS ONLY)						
Lane Miles						
Base Year (2005) Lane-Miles	2,335,393	TBD	2,335,393		TBD	
Lane-Miles Added						
2005-2020	58,215	TBD	159,728	(1,713)	TBD	(2,640)
2005-2035	100,049	TBD	233,664	(28,231)	TBD	(108,489)
2005-2055	175,464	TBD	506,014	(54,811)	TBD	(193,744)
Highway Travel						
VMT (billions)						
2005 (base year)	2,554	TBD	2,554		TBD	
2020	3,440	TBD	3,623	9	TBD	5
2035	4,380	TBD	4,786	114	TBD	50
2055	5,879	TBD	6,815	312	TBD	125
VMT on All Roads (billions)						
2005 (base year)	3,009	TBD	3,009		TBD	
2020	4,054	TBD	4,269	11	TBD	6
2035	5,162	TBD	5,639	135	TBD	59
2055	6,928	TBD	8,031	368	TBD	147
Delay						
Average Delay (hrs/1000 VMT)						
2005 (base year)	4.8	TBD	4.8		TBD	
2020	5.5	TBD	4.1	(0.1)	TBD	(0.1)
2035	5.6	TBD	4.1	(1.1)	TBD	(0.7)
2055	6.8	TBD	4.9	(1.5)	TBD	(0.7)
Total Delay(million hours/year)						
2005 (base year)	12,204	TBD	12,204		TBD	
2020	18,974	TBD	14,827	(210)	TBD	(220)
2035	24,612	TBD	19,597	(4,170)	TBD	(3,253)
2055	40,028	TBD	33,446	(6,436)	TBD	(3,865)
Ride Quality						
Percent of All Travel on Roads with Acceptable Ride Quality						
2005 (base year)	85.5	TBD	85.5		TBD	
2020	75.0	TBD	93.7	0.0	TBD	(0.0)
2035	70.4	TBD	93.3	4.3	TBD	0.2
2055	63.0	TBD	91.7	5.4	TBD	1.3
PERFORMANCE MEASURES BY STRATEGY CATEGORY						
FREIGHT						
National Highway System						
VMT Trucks (billions)						
2005 (base year)	TBD	TBD	TBD		TBD	
2020	TBD	TBD	TBD		TBD	
2035	TBD	TBD	TBD		TBD	
2055	TBD	TBD	TBD		TBD	
Average Delay Trucks (hrs/1000 VMT)						
2005 (base year)	TBD	TBD	TBD		TBD	
2020	TBD	TBD	TBD		TBD	
2035	TBD	TBD	TBD		TBD	
2055	TBD	TBD	TBD		TBD	
Total Delay Trucks (million hours/year)						
2005 (base year)	TBD	TBD	TBD		TBD	
2020	TBD	TBD	TBD		TBD	
2035	TBD	TBD	TBD		TBD	
2055	TBD	TBD	TBD		TBD	
Exclusive Truck Lanes Network						
Lane-Miles						
METROPOLITAN MOBILITY						
Principal Arterials in Urban Areas						
Lane-Miles						
Base Year (2005) Lane-Miles	351,473	TBD	351,473		TBD	
Lane-Miles Added						
2005-2020	26,487	TBD	75,943	(1,210)	TBD	(2,415)
2005-2035	45,659	TBD	105,348	(11,497)	TBD	(47,901)
2005-2055	76,969	TBD	207,764	(17,716)	TBD	(76,361)
VMT (billions)						
2005 (base year)	1,156	TBD	1,156	-	TBD	-
2020	1,544	TBD	1,655	7	TBD	4
2035	1,974	TBD	2,201	83	TBD	34
2055	2,627	TBD	3,140	221	TBD	82
Average Delay (hrs/1000 VMT)						
2005	5.8	TBD	5.8	-	TBD	-
2020	6.7	TBD	4.1	(0.1)	TBD	(0.1)
2035	6.7	TBD	4.1	(2.1)	TBD	(1.1)
2055	8.9	TBD	5.5	(2.7)	TBD	(1.0)
Pct Change 2005-2020	16.4%	TBD	-28.8%		TBD	
Pct Change 2005-2035	15.7%	TBD	-28.7%		TBD	
Pct Change 2005-2055	53.6%	TBD	-4.8%		TBD	

Scenario 5: Maximum Technology
Key Findings: Highway Performance Indicators

	Funding Level			Change from Base Case		
Total Delay (million hrs/yr)						
2005	6,676	TBD	6,676	-	TBD	-
2020	10,378	TBD	6,811	(170)	TBD	(147)
2035	13,194	TBD	9,062	(3,327)	TBD	(2,217)
2055	23,296	TBD	17,271	(4,614)	TBD	(2,718)
Pct Change 2005-2020	55%	TBD	2%		TBD	
Pct Change 2005-2035	98%	TBD	36%		TBD	
Pct Change 2005-2055	249%	TBD	159%		TBD	
Major Urbanized Areas (population over 1 million)						
Lane-Miles (All Functional Classes)						
Base Year (2005) Lane-Miles	328,785	328,785	328,785		TBD	
Lane-Miles Added					TBD	
2005-2020	14,849	TBD	59,318	(398)	TBD	(945)
2005-2035	27,844	TBD	83,892	(1,542)	TBD	(31,190)
2005-2055	42,604	TBD	159,287	(655)	TBD	(47,607)
VMT (billions)						
2005 (base year)	911	TBD	911		TBD	
2020	1,194	TBD	1,299	6	TBD	3
2035	1,502	TBD	1,723	81	TBD	37
2055	1,949	TBD	2,446	211	TBD	94
Average Delay (hrs/1000 VMT)						
2005	7.8	TBD	7.8		TBD	
2020	9.4	TBD	6.2	(0.1)	TBD	(0.1)
2035	9.4	TBD	6.2	(2.6)	TBD	(1.5)
2055	12.0	TBD	8.0	(3.5)	TBD	(1.5)
Pct Change 2005-2020	21%	TBD	-21%		TBD	
Pct Change 2005-2035	21%	TBD	-20%		TBD	
Pct Change 2005-2055	54%	TBD	2%		TBD	
Total Delay (million hrs/yr)						
2005	7,075	TBD	7,075		TBD	
2020	11,213	TBD	8,019	(97)	TBD	(114)
2035	14,146	TBD	10,679	(2,875)	TBD	(2,315)
2055	23,348	TBD	19,452	(3,599)	TBD	(2,800)
Pct Change 2005-2020	58%	TBD	13%		TBD	
Pct Change 2005-2035	100%	TBD	51%		TBD	
Pct Change 2005-2055	230%	TBD	175%		TBD	
HIGHWAY CONNECTIVITY						
Federal-Aid Highways Rural Lane Miles						
Base Year (2005) Rural Lane-Miles	1,499,805	TBD	1,499,805		TBD	
Lane-Miles Added					TBD	
2005-2020	15,802	TBD	34,934	(260)	TBD	(175)
2005-2035	26,887	TBD	55,734	(13,632)	TBD	(34,986)
2005-2055	55,855	TBD	153,831	(31,519)	TBD	(73,565)
Additional Connectivity: New Interstates						
Freight Connections						
New Geography Connections						
Cities >50,000 Not Served by Interstate						
2005 (base year)	70	70	70			
2020	70	70	70			
2035	70	70	70			
2055	70	70	70			
HIGHWAY SAFETY						
Fatality Rate per 100M VMT						
2005 (base year)	TBD	TBD	TBD			
2020	TBD	TBD	TBD			
2035	TBD	TBD	TBD			
2055	TBD	TBD	TBD			
Fatalities						
2005 (base year)	TBD	TBD	TBD			
2020	TBD	TBD	TBD			
2035	TBD	TBD	TBD			
2055	TBD	TBD	TBD			
ENERGY CONSUMPTION						
Motor Fuel Consumption (billions of gallons/yr)						
2005 (base year)	174	TBD	174		TBD	
2020	226	TBD	231	1	TBD	1
2035	265	TBD	279	6	TBD	6
2055	320	TBD	354	15	TBD	7