

How Can Wells Grow and Protect Depot Brook?



U.S. EPA Smart Growth Implementation Assistance

With

Charlier Associates / Community, Design + Architecture / Van Meter Williams Pollack

And with support from

The Town of Wells; Maine Sea Grant; Spahr & Dabrowski, LLC; and the Wells National Estuarine Research Reserve



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Contact: William Schroeer
ICF International
4316 Upton Ave. S, #304
Minneapolis, MN 55410
Tel (612) 928-0788
Fax (612) 928-0782

EPA Contact: Lynn Richards
Office of Policy, Economics, and Innovation
Smart Growth Program
1200 Pennsylvania Ave., NW [MC 1807T]
Washington, DC 20460
Tel (202) 566-2858; Fax (202) 566-2868

Consultant Team

Jim Charlier, AICP
President, Charlier Associates, Inc.
2511 31st Street
Boulder, CO 80301
Tel (303) 5437277 x104; Fax (303) 543-7278
jfc@charlier.org; www.charlier.org

Tim Van Meter
Architect / Urban Designer
Van Meter Williams Pollack
ARCHITECTURE • URBAN DESIGN
1529 Market Street, Second Floor
Denver, CO 80202
Tel (303) 298- 1480 x 18; Fax (303) 893-2595
Tim@vmwp.com; www.vmwp.com

Clark Wilson
Associate Principal
Community Design + Architecture
350 Frank Ogawa Plaza, Fifth Floor
Oakland, CA 94612-2012
Tel (510) 839-4568; Fax (510) 839-4570
clark@community-design.com
www.community-design.com

Wells Team

Cindy Dabrowski Kennie
Project Coordinator - Wells Team
Spahr & Dabrowski, LLC
54 Port Road
Kennebunk, ME 04043
Tel (207) 967- 8096
cindy@sdanalysis.com

Dave Hardy
Town of Wells Representative
PO BOX 398
Wells, ME 04090
Tel (407) 242-2853
dhimme@yahoo.com

Michael Huston, Town Planner
Town of Wells
PO BOX 398
Wells, ME 04090
Tel (207) 646 5113 X 211; Fax (207) 646-2935
mhuston@wellstown.org

Tim Spahr
Assistant Project Coordinator - Wells Team
Spahr & Dabrowski, LLC
54 Port Road
Kennebunk, ME 04043
Tel (207) 967 4510
spahr1@gwi.net or tim@sdanalysis.com

Kristen Whiting-Grant
Outreach Coordinator – Wells Team; Extension Associate
Maine Sea Grant and University of Maine Cooperative Extension at the Wells Reserve
342 Laudholm Farm Rd
Wells, ME 04090
Tel (207) 646-1555 x115; Fax (207) 646-2930; kristen.whiting-grant@maine.edu

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OPPORTUNITY FOR WELLS

Wells has before it an exciting opportunity. Communities around the country have found that creating great, distinctive places where people want to be, places that offer choices in housing and transportation and that respect and preserve their natural environment, often lead to economic success. People want to live there, tourists want to visit, and businesses want to move there because they know they can find customers and employees nearby. Wells has the opportunity to create such a place – and reap the economic benefits – by redeveloping Wells Corner to be a vibrant, walkable neighborhood.

Recognizing this opportunity, the town of Wells and Maine Sea Grant applied to the U.S. Environmental Protection Agency (EPA) and the National Oceanic Atmospheric Administration's Smart Growth Implementation Assistance for Coastal Communities to help find options that the town could use to target development and redevelopment in the town's central area, Wells Corner, while protecting the environmental quality of Depot Brook.

A design workshop was held in Wells September 18-20, 2006, to help develop these options. The design workshop was organized to:

- (1) listen to what Wells' residents want for their town;
- (2) explore possible building and land use designs for the Rt. 109 corridor and Wells Corner area;
- (3) explore stormwater management strategies that could be incorporated into different building types and land uses; and
- (4) explore possible transportation and parking strategies, including suggestions for improved connectivity and mobility, that could help improve traffic flow and provide more transportation options.

Over the course of the design workshop, the town, Maine Sea Grant, the EPA consultant team, and local partners held three public meetings with 96 residents attending and interviewed 32 residents individually. A wide range of stakeholders, including selectmen, local landowners, members of various town boards and commissions, interested residents, Maine DOT staff, and local citizen groups were asked to participate in the public meetings and/or the interview sessions. In general, Wells residents said they wanted to:

- Preserve and enhance the town's natural characteristics;
- Have a central gathering place for the town; and
- Have a better and safer pedestrian environment.

The consultant team responded to these primary principles, as well as to the other characteristics residents wanted for their town, with a concept plan for a pedestrian district around the Wells Corner area. The pedestrian district concept includes features to accomplish several of the town's goals, including making walking more pleasant and accessible, creating more business opportunities, offering more housing choices, enhancing Wells' character, managing stormwater runoff, and protecting Depot Brook.

Many of the elements described in the concept plan mirror the recommendations put forth by the 2006 Brookings Institution report, *Charting Maine's Future: An Action Plan for Promoting Sustainable Prosperity and Quality Places* and by the Town of Wells 2005 Comprehensive Plan revision.

Communities across the U.S. are finding that compact, walkable, mixed-use development—similar to the pedestrian district envisioned for Wells’ central area—can create economic opportunities. Indeed, these strategies are self-reinforcing—communities that are more walkable and compact have been shown to be more economically successful than those that are more dispersed.¹ This economic vitality attracts additional private and public investment that can lead to better pedestrian and community amenities.

This report discusses transportation, land use, and stormwater strategies the town could implement to achieve its economic, quality of life, and environmental goals. Although any one of the strategies can be implemented on its own, any single strategy will be more effective if it is implemented as part of a bundle of complementary policies. For example, a greater diversity of housing types, expanded trails, a pedestrian district, or a public space serving as a community gateway could individually make downtown more lively, walkable, and family friendly, but each will have a greater effect when combined with supporting policies.

In addition to bundling strategies, the town could also consider which strategies to address first. The town could prioritize the strategies based on which ones will yield, or at least lay the foundation for, the results residents want. Like bundling, prioritizing strategies will also increase their effectiveness.

The consultant team proposes the following three strategies for the town to consider giving top priority. These three strategies are proposed as a foundation for any kind pedestrian district that the town decides to pursue:

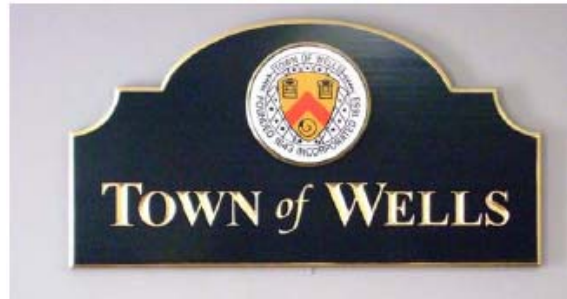
1. The town could hold a design charrette focused on the Rt.1/109 intersection. This intersection is in the middle of Wells’ central area, and the redesign of the intersection will directly affect any future development or redevelopment in this area. A design charrette, with an open public dialogue, could help ensure that the final design can work with future plans residents might want for that area.
2. The town could create a specific area plan for Wells’ central area and determine which land development regulations would need to be changed to allow the type of development residents want.
3. To continue the momentum of the design workshop, the town could engage the public to determine some of the basic elements for the pedestrian district, such as determining boundaries and the number and size of mixed-use buildings and housing. The public could be engaged through regular town meetings or a public workshop.

These three strategies can help Wells and its residents determine where and how they want their town to grow and lay the foundation for attracting the growth they want. The development process allows the town to put in place zoning, ordinances, standards, and guidelines for developers to establish expectations about what the town wants as properties change owners. The clearer the town can be about the type of development it wants, the more likely it is to be built, and the more likely Wells is to capture the opportunity before them.

¹ See, for example, Mark Muro and Robert Puentes, “Investing in a Better Future: A Review of the Fiscal and Competitive Advantages of Smarter Growth Development Patterns,” 2004, and International Economic Development Council’s, *Economic Development and Smart Growth: 8 Case Studies*, 2006.

I INTRODUCTION

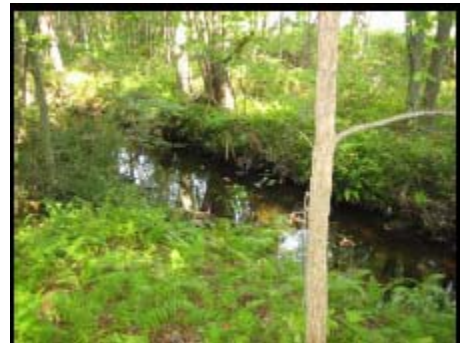
Wells, Maine, named for the cathedral city of Wells in Somerset, England, is a seacoast town and was founded in 1653 as the third town in Maine. It covers 62 square miles and has a year-round population of approximately 10,000 people. There is a large service industry in the area, which includes carpenters, painters, farmers, repairmen, and others. Professional services, such as accounting, legal work, and banking, are also plentiful. It is estimated that nearly two-thirds of the approximately 7,000 homes in Wells are occupied year-round.



In April 2005, Wells updated its comprehensive plan, which included a vision for the town of future development with walkable streets, development integrated into the Rt. 109 gateway, well-managed summer traffic peaks, and protected natural resources.

In August 2005, the town of Wells and Maine Sea Grant applied to the EPA-NOAA Smart Growth Implementation Assistance for Coastal Communities to help answer the question, “How can Wells grow and protect Depot Brook?” The town requested technical assistance to help find options that it could use to guide development and redevelopment in the Rt. 109 Gateway Corridor, from the I-95 intersection (Transportation Center) to Rt. 1 in the town’s central area, Wells Corner, which includes a portion of Depot Brook.

The application was an outgrowth of a previous effort in Wells to limit land-intensive growth patterns, centralize growth, and encourage tourism by targeting redevelopment of an area at the intersection of US Routes 1 and 109. In conjunction with this planning effort, a research study suggested that Depot Brook, which transects that area of town, could be incorporated as an ecologically functional wild trout stream and community greenway. For more information about the history of the larger Depot Brook project, please see Appendix B: A Brief History of the Depot Brook Project.



Depot Brook

Depot Brook is a small, 2.2- mile-long brook that maintains a population of wild eastern brook trout.² The brook’s success is due, in part, to several sections of the stream that have maintained a vegetated riparian buffer. The buffer keeps the water temperature cool, controls surface water runoff, and prevents bank erosion, thus preserving the stream’s structure. The brook, however, runs through the center of Wells, which is facing substantial development pressures. Protecting and enhancing Depot Brook in the face of this growth was one of the town’s main goals for this project.

² Spahr and Dabrowski. 2005. Incorporating Small Streams and Brooks into Developing Landscapes. Wells National Estuarine Research Reserve: Wells.

2 SCOPE OF TECHNICAL ASSISTANCE

The town of Wells and Maine Sea Grant stressed in their application and in initial conversations with EPA that they wanted strategies to protect Depot Brook as the town grew. Current and proposed development activity suggests that Wells, like the rest of southern Maine, faces significant development pressures:

- Considerable redevelopment has already occurred in Wells and the Rt. 109 corridor, including a transportation center, a medical center, and an elementary school.
- Maine Department of Transportation (MDOT) is currently engaged in discussions with the town concerning a redesign of the Rt. 1/109 intersection. The redesign could make this area a good candidate for infill, as at least one building has been removed and two additional buildings could be removed.
- Less than a quarter-mile from Wells Corner, a new multi-family residential building will be constructed on Harbor Road.
- Two large condo complexes have been permitted and are under construction near the Wells Corner intersection.

In any community, growth brings both opportunities and challenges. For Wells, new development could provide additional transportation options and more housing, increase state investment in the town's infrastructure, and add to the town's tax base. However, new development also brings new residents and visitors, which could compound existing traffic problems and increase impervious cover, which may increase stormwater runoff into the brook.

The town of Wells, like most of the communities in the Rt. 1 corridor, has significant traffic delays during the summer. In addition, the Rt. 1/109 intersection accommodates significant truck traffic from I-95. Some residents believe that any additional development in the Rt. 1/109 area would exacerbate existing traffic delays. Additional traffic might make walking more dangerous, something Wells residents clearly want to avoid.

As Exhibit 1 shows, much of Wells Corner is already under impervious cover, and Depot Brook serves as the receiving area for the area's stormwater runoff. Residents are concerned that additional development in this area will create more impervious cover and therefore degrade the brook.

The town and Maine Sea Grant sought technical assistance to help them address these challenges. They asked EPA and its consultant team to help them determine:

- Could current development activity attract more development, and what would the impact of this new development be on traffic, stormwater runoff, and pedestrians?
- Could new development be done in a way that minimizes runoff and traffic?
- Could new development help promote pedestrian safety and destinations?

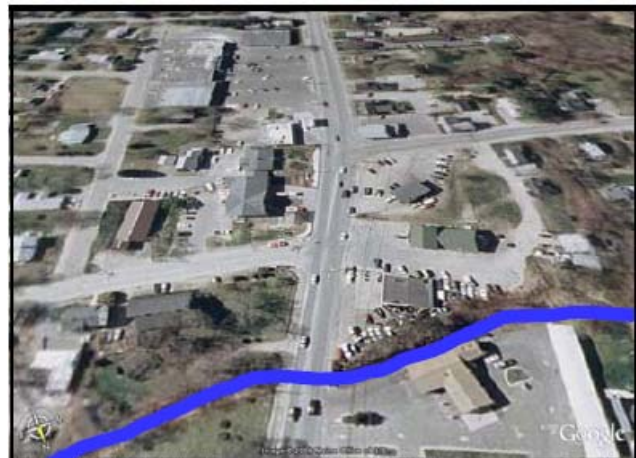


Exhibit 1: Rt. 1/109 intersection. Depot Brook is represented by the blue line.



Exhibit 2: Depot Brook and Gateway Area

The town of Wells, Maine Sea Grant, and EPA agreed to conduct a design workshop to help answer these questions. The results of the design workshop can further the community's conversation about where and how it wants to grow. The design workshop for Wells was organized to:

- Listen to what Wells' residents want for their town;
- Explore possible building and land use designs and strategies for the Rt. 109 corridor and Wells Corner central area;
- Explore stormwater management strategies that could be incorporated into different building types and land uses; and
- Explore transportation and parking strategies, including suggestions for improved connectivity and mobility, that could improve traffic flow and provide more transportation options.

The information and ideas generated in the workshop would help provide the basis for possible redevelopment designs around Wells' central area. Exhibit 2 shows the primary focus area for the design workshop.

3 MARKET ANALYSIS

As a first step in discussing with the community how future development could be designed to serve Wells and protect Depot Brook, the consultant team analyzed Wells’ demographic, population, employment, and retail conditions and trends. Strategic Economics, a consulting and research firm specializing in urban and regional economics and planning, completed an off-site market analysis for the town of Wells. The analysis drew on retail and economic data and on interviews with Wells real estate agents and retailers. The analysis reached four particularly relevant conclusions:

1. Wells has a higher median age than Maine and the rest of the country;
2. The seasonal housing market is growing;
3. The town does not have enough affordable housing; and
4. Wells’ market share of retail sales is declining.

Participants in the design workshop agreed with these conclusions.

3.1 Aging Population

Wells’ current year-round population is approximately 10,000 people. Wells, like the rest of the country, is seeing its median age of its population increase, primarily because the baby boomers—a large demographic—are aging. However, the Wells population has a higher median age than the rest of the country and York County, as Exhibit 3 demonstrates.³

	1990	2000
United States	32.9	35.3
Maine	33.8	38.6
York County	33.7	38.5
Wells	36.6	43.3

This may be due, in part, to the expanding supply of senior housing, which is not limited by the town’s housing growth cap, which is set at 156-year round residential units per year. Available senior housing in Wells could attract more retirees, thus raising Well’s median age faster than Maine and the U.S.

3.2 Seasonal Housing

There is considerable demand for seasonal housing in Wells. The 2000 Census reported a total of 3,461 seasonal housing units, which is an increase of more than 1,000 seasonal units from 1990.⁴ Wells has three times more seasonal units than there are in the rest of York County. Seasonal units are exempt from the town’s housing growth cap, which may explain this trend. Seasonal units, or cottages, are limited to 600 square feet and can be occupied for only six months a year. Many residents commented on the ubiquitous nature of new cottage developments. To try to slow this trend, the town limited the density of these cottages to four units per acre in spring of 2006.

The surge in seasonal housing matches the surge in seasonal population, which is growing and is expected to continue to grow. The current peak seasonal population in Wells is approximately 35,000.⁵ By 2014 this number is expected to increase to 39,000.⁶

³ US Census Bureau, 2000 Census.

⁴ US Census Bureau, 2000 Census.

⁵ Town of Wells Planning Department.

⁶ Town of Wells Planning Department.

Wells could benefit economically from the increase in seasonal population if it is able to retain the characteristics that make it a desirable destination for tourists. Whether the increase in summer cottages contributes to these desirable characteristics is something for the town to decide.

3.3 Affordable Housing

It is increasingly difficult for Wells residents to purchase homes in their community. At 2003 median income levels, it is estimated that a family would need to make at least \$79,000 per year to afford a median-priced home in Wells (\$229,794). The estimated 2003 median income in Wells was \$50,922. Of homes purchased last year, only 17 percent were bought by full-time residents of Wells.⁷ This trend is driven largely by housing demand from older, wealthier people wanting to retire or vacation in Wells. As a result:

1. The children of Wells' residents may be unable to stay in town when the time comes for them to buy their own homes; and
2. Young families or those just starting their careers may be unable to move to Wells.

In 1995, a housing inventory developed for the town's comprehensive plan identified a need for 142 affordably priced housing units. The need for affordable housing has not only persisted, but has since increased. "Affordable housing is the No. 1 problem facing York County, said local officials," according to the *York Weekly*. To buy an average-priced home in York or Kittery, one would need to earn \$45 per hour—well above area median income levels.⁸

The lack of housing for the town's workforce, such as teachers, firefighters, police officers, and other civic employees, can limit Wells' economic growth. Indeed, the mayor of another tourist community, Breckenridge, Colorado, said of its affordable housing crisis, "You've got to find ways to keep the police officers, the teachers, the managers in the community... These people are both the economic engine and the soul of the town."⁹ Wells needs to consider strategies to bolster its workforce housing to stay economically competitive.

3.4 Wells Retail Outlook

Wells captures nearly 20 percent of the Kittery area retail sales. The proportion of sales in Wells dropped by 2 percent from 1990 to 2000, as shown in Exhibit 4. Since Wells is growing faster than the surrounding area, it is clear that retail spending is shifting out of Wells.

⁷ US Census, 2000 Census.

⁸ Deborah McDermott, "York County Faces Affordable Housing Hurdles," *York Weekly*, October 23, 2005. (<http://www.yorkweekly.com/2005news////10232005/maine/69397.htm>)

⁹ EPA, 2002 National Award for Smart Growth Achievement. EPA 231-F-02-002.

Exhibit 4: Taxable Retail Sales			
	Taxable Retail Sales in:		
Year	Wells	Kittery Economic Summary Area (ESA)	Wells % of ESA Sales
1990	\$66,194,000	\$319,127,000	20.7 %
1995	79,827,000	411,596,000	19.4 %
2000	100,695,000	538,012,000	18.7 %

As Wells residents envision their town's future, including where and how they want to grow, these economic trends suggest both guidelines and choices. Wells could capitalize on its attractiveness to retirees and focus on accommodating and/or attracting more retirees. Wells could also seek to retain and attract younger residents. These options are not, of course, mutually exclusive. Informed by these economic realities, the consultant team led a visioning exercise for the town to help it determine what kind of growth it wants for the future.

4 A VISION FOR WELLS

In April 2005, the town of Wells finished its comprehensive plan update. In this plan, the town described its character in terms of its natural, social, and built environments. Wells described itself as “a terrific community with great people and a great environment. The vision for Wells is to preserve and promote Wells’ small-town historic traditional rural New England seacoast community character, appearance and values for a better quality of life.”¹⁰ In the town’s comprehensive plan, the town said it wants to:

- Retain Small Town Character and Quality of Life
- Improve the Central Area
- Protect Rural Areas and Neighborhoods
- [Enhance] Beach Areas with Neighborhoods and Village Centers
- [Protect] Open Space and Natural Ecologically Critical Areas
- [Enhance] Transportation Center (Maine Turnpike Exit 19 Area)

To expand on and refine these goals, local project partners asked year-round residents, seasonal residents, and visitors to complete a visual preference survey. The survey was developed and implemented by Spahr and Dabrowski, LLC. The survey asked respondents to rate, from – 5 to + 5, how they liked various architecture and design elements that are found in Wells or in similar small, coastal Maine communities. The visual preference survey was widely available, including copies at the Wells Public Library, the Wells Town Hall, and the arts and crafts Festival at Laudholm Farm. Because of this extensive outreach, 118 people responded. The full survey and its results are in Appendix E.

In general, survey respondents indicated that they preferred more walkable areas, bike and pedestrian lanes that were separate from vehicle traffic, and areas with more trees, landscaping, or other green features. The results provided the consultant team with some initial information about what Wells’ residents want for their town.

During the design workshop, the consultant team held public meetings and interviewed residents to determine how the town’s vision, as described in the comprehensive plan and the



A group discusses possible intersection options



A Wells resident discusses possible areas of change and areas of preservation in Wells Corner

¹⁰ Town of Wells Comprehensive Plan, 2005.

visual preference survey, applied to the specific study area. The team engaged residents in discussion about their vision and goals for the town.

Over the course of the three-day site visit, the team held three public meetings, with 96 residents in attendance, and interviewed 32 residents individually. A wide range of stakeholders, including selectmen, local landowners, members of various town boards and commissions, Maine DOT staff, local citizen groups, and concerned residents, were asked to participate in the public meetings and/or the interview sessions. In general, Wells residents wanted to preserve and enhance the town's natural characteristics, a central gathering place for the town, and a better and safer pedestrian environment. Specific goals residents had for their town and future development included:

- Protect and enhance Depot Brook
- Create a “sense of place” for Wells
- Increase walking and biking opportunities
- Protect Wells’ natural heritage
- Address traffic congestion
- Increase safety for pedestrians and bikers
- Increase family friendliness
- Provide housing for young families and Wells’ residents
- Keep and expand tourist opportunities
- Provide “carless” vacation opportunities
- Expand level of citizen participation
- Create a dedicated traffic lane for public transit/trolley
- Promote remote parking possibilities
- Connect and expand trails to each other and create more access points and destinations
- Coordinate linkages between all transportation modes: walking, biking, driving, train, and trolley
- Promote economic development opportunities for small, local businesses to better promote Maine and Wells character
- Create more year-round employment and economic opportunities



The consultants’ concept plans sparked considerable interest from town residents.



The public meetings solicited feedback from residents about what they like and what needs improvement.

- Create more social opportunities to attract and retain young people
- Build more housing types—townhomes, apartments, lofts, live-work units—to complement single-family detached homes
- Promote local amenities beyond the beach, such as hiking and biking trails, Wells Reserve and other outdoor recreational places, and Wells’ historic character
- Create a “gateway” for Wells that could welcome visitors as they come into town, such as a park or community center

This vision for Wells was continually refined throughout the three-day design workshop. At every opportunity, Wells residents were asked to correct, refine, or add to this list. With these goals as a foundation, the consultant team drafted some possible design options for the Wells Corner central area that would help Wells residents achieve their vision for their town.

4.1 A concept plan for Wells

Concern for protecting and enhancing the ecological integrity of Depot Brook was a primary focal point for the design workshop. In addition, nearly all participants wanted to make walking easier, safer, and more appealing. The consultant team responded to these two primary principles, as well as to the other characteristics residents wanted for their town, with a concept plan for a pedestrian district around the Wells Corner area, shown in Exhibit 5.

The pedestrian district concept includes features to accomplish several of the town’s goals, including making walking more pleasant and accessible, creating more business opportunities, offering more housing choices, enhancing Wells’ character, managing stormwater runoff, and protecting Depot Brook.

Historically, many New England towns were designed with the town hall or other civic buildings around a central square where community events and functions could be held. The conceptual design for the pedestrian district is based in traditional New England town planning. The consultant team brought back the terminus point for Rt. 109, with the Town Hall Annex, restoring a piece of Wells’ history. Behind the annex would be a town green. Many New England towns also have traditionally had a strong “main street” character, offering a wide range of shopping, business, and living opportunities. Building on this tradition and on residents’ desire for more housing choices for younger residents and the town’s workforce, the consultant team included numerous buildings that could accommodate commercial opportunities on the first floor and housing on the upper floors.



Original Wells Town hall, at Rt. 109 terminus.
Photo credit: The Historical Society of Wells and Ogunquit.

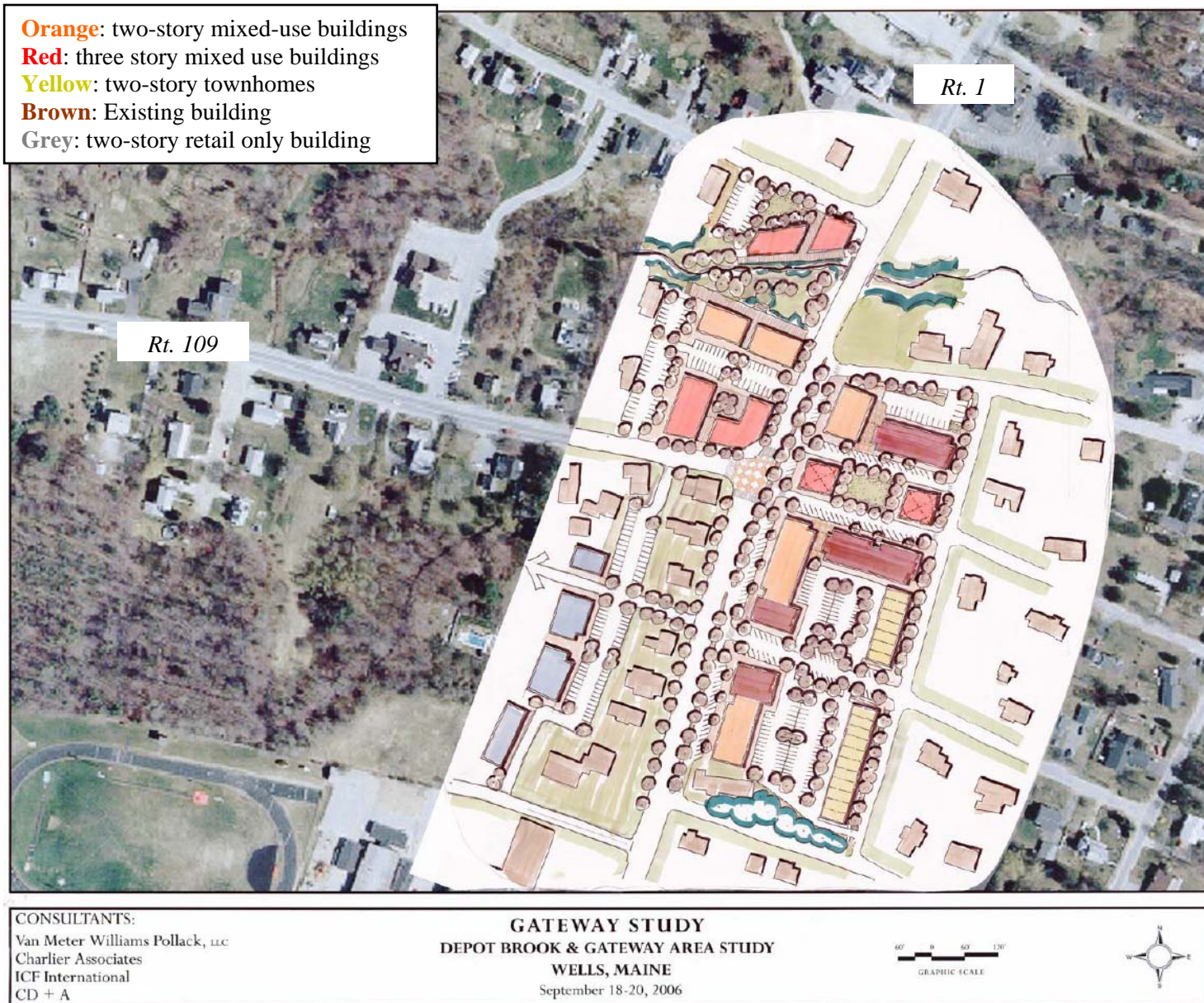


Exhibit 5: Concept plan for Wells Corner pedestrian district.

Recognizing Wells' history, the consultant team wanted the pedestrian district to connect to the older buildings on the north side of Rt. 1. In addition, the rear areas of these older buildings could also provide opportunities for infill development of either additional housing or commercial buildings.

To address stormwater runoff and to provide residents and visitors with education opportunities, the plan includes a Depot Brook park. The park would provide additional gathering and open space for the residents, as well as new opportunities to learn about and enjoy the brook. During the design workshop, several residents thought a park could help residents better connect to natural areas, including the brook, in the town.

Wells residents strongly supported safer, more attractive pedestrian places. The pedestrian district concept includes features to make pedestrians safer and more comfortable, including trees along the street, street-level planters, on-street parking, highly visible street crossings, wide sidewalks, and dedicated bike lanes.

4.2 Economic Opportunities of Compact, Mixed-Use Communities

Many of the elements described in the concept plan mirror the recommendations in the 2006 Brookings Institution report, *Charting Maine's Future: An Action Plan for Promoting Sustainable Prosperity and Quality Places*.¹¹ For example, the report recommended that Maine should establish a "Maine Quality Places Fund" to promote city and town revitalization, land conservation, and high-quality outdoor recreation and tourism, which are many of the elements the residents of Wells said they wanted for their central area.

Brookings and other researchers have found that single-use, low-density development increases municipal budgets and residents' tax burden.¹² Residential development often does not pay its own way. For example, in Nantucket, Massachusetts, each housing unit was found to cost taxpayers an average of \$265 a year more than the unit contributed in taxes.¹³ In Prince William County, Virginia, a local official says, "Every time I see a new house, I look at it and say, 'there goes another \$1,600.'"¹⁴

Brookings also found that development is converting southern Maine's rural land to suburbs. Over 106,000 acres was converted from low-density rural land to higher-density suburban land in southern Maine between 1980 and 2000. In the same period, York County lost 50,000 rural acres to increasing suburbanization.¹⁵ The report went on to say that nearly all of York and Cumberland counties' high-quality agricultural land is being quickly encroached upon by accelerating residential development.

Communities across the U.S. are finding that development that is more compact, walkable, and mixed use—development similar to the pedestrian district envisioned for Wells' central area—can save local governments money and create economic opportunities. For example, a 2000 analysis of New Jersey's state plan for directing development to existing communities would save the state \$870 million in local road infrastructure and \$1.45 billion in sewer and water infrastructure.¹⁶ Nationwide, a 2004 Brookings

¹¹ Brookings Institution. 2006. *Charting Maine's Future: An Action Plan for Promoting Sustainable Prosperity and Quality Places*. Brookings: Washington, D.C.

¹² Transportation Cooperative Research Program. 2000. TCRP Report 74: Costs of Sprawl. National Academy Press: Washington, D.C.

¹³ Nantucket Land Council, Inc. 1989. "Balancing Today's Development and Tomorrow's Taxes."

¹⁴ Geoffrey Anderson. 1997. *Why Smart Growth: A Primer*. ICMA: Washington, D.C.

¹⁵ Brookings, *A profile of Southern Maine: Cumberland and York Counties*.

¹⁶ Rutgers University. 2000. *Cost and Benefits of Alternative Growth Patterns*.

study¹⁷ found that more compact development saves money over single-use low density development. With more compact development, local governments could save:

- 11 percent, or \$110 billion, from road building costs over 25 years;
- 6 percent, or \$12.6 billion, from water and sewer costs over 25 years; and
- roughly 3 percent, or \$4 billion, for annual operations and service delivery.

In addition to municipal and state savings, communities across the U.S. have found significant economic opportunities from walkable, compact, mixed use communities.¹⁸ Increasingly, local economic development organizations recognize that such land development practices are tied to economic success.¹⁹

While it can be hard to measure the precise economic impact mixed-use walkable communities, the Main Street Program is a good proxy. For the past 25 years, local Main Street Programs have been working to revitalize commercial districts, preserve historic neighborhoods, and enhance urban and community planning programs. Since their inception, Main Street programs have tracked municipal investment and returns on that investment. In 2005, they found that the total amount of reinvestment in physical improvements from public and private sources was \$31.5 billion and the average reinvestment per community was over \$12 million.²⁰

Redevelopment in local New England communities supports these national trends. For example, Mashpee Commons in Cape Cod, Massachusetts, was constructed in 1962 as a conventional suburban strip mall. As Exhibit 6 demonstrates, originally it looked very similar to how Wells Corner Shopping Center looks today, with 62,000 square feet of retail space and a large asphalt parking lot in front. In the mid-1990s, the property's owners worked with an urban design firm to develop a master plan that would create a pedestrian-scaled, attractive, mixed-use community center. In addition to transforming the shopping center itself, residential neighborhoods were connected to the main retail area.

¹⁷ Mark Muro and Robert Puentes. 2004. "Investing in a Better Future: A Review of the Fiscal and Competitive Advantages of Smarter Growth Development Patterns." Brookings Institution: Washington, D.C.

¹⁸ International Economic Development Council. 2006. Economic Development and Smart Growth: 8 Case Studies on the Connections between Smart Growth Development and Jobs, Wealth, and Quality of Life in Communities. IEDC: Washington, D.C.

¹⁹ International Economic Development Council. 2006. Economic Development and Smart Growth.

²⁰ Main Street Program, website, < <http://www.mainstreet.org/content.aspx?page=7966§ion=2>>, accessed on March 12, 2007.

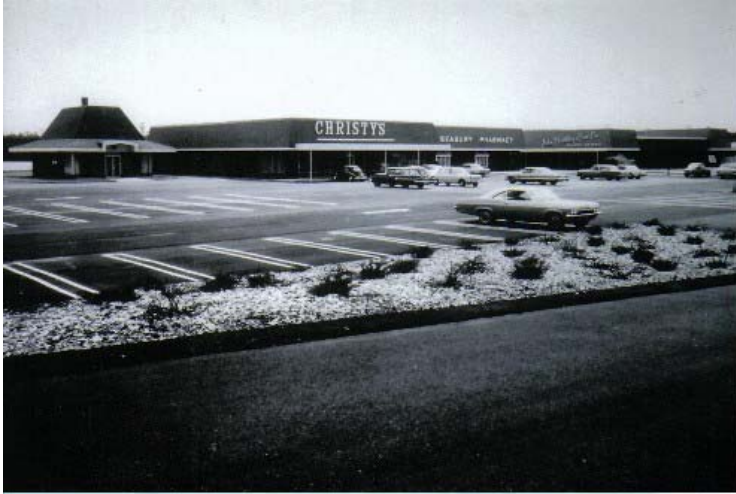


Exhibit: 6 Mashpee Commons, Massachusetts, before redevelopment (left) and after(right)

The prominent design features of Mashpee Commons are the central business core with multi-story, mixed-use buildings, and liner shops on the perimeter of the site that are used to screen parking lots. To the owner's delight, the project has been a great economic success: both rents and sales per square foot exceed regional and national averages. According to the owner, perhaps their biggest mistake was not including more residential space—the available units have long waiting lists.

In another example, the 7,000 residents of Winooski, Vermont, saw a revitalization of their downtown as an economic development strategy. In the mid-1990s, it had become clear that Winooski's tax base was in decline, and without a significant change in the economic base, the municipality would be in serious financial trouble. In 1999, the city began a public process to mobilize residents for redevelopment of their hometown. Extensive public dialogue produced the plan to revitalize downtown. The city secured more than \$38 million in public funding, which leveraged \$169 million in private investment. Construction started in 2004.

The resulting downtown redevelopment project revitalized the small town with new development that preserved or restored nearly 100 acres of natural habitat, returned vacant properties to productive use, created several neighborhood parks, and built the pedestrian-friendly RiverWalk. In addition, the project created approximately 1,400 construction jobs and will generate an estimated 2,100 permanent jobs, or \$49 million in new annual personal income, when complete.²¹



The RiverWalk provides public access to the Winooski River and adjoining parks

Wells, Mashpee Commons, and the Winooski downtown redevelopment project share several similarities. Mashpee and Winooski wanted a boost to their communities and successfully used compact,

²¹ City of Winooski 2006 Entry Package for the National Award for Smart Growth Achievement.

mixed use development as an economic development strategy. In addition, Mashpee and Winooski engaged the public to determine what their residents wanted—again, similar to Wells’ outreach for the central area. Finally, Mashpee and Winooski used their communities’ existing and natural assets as a focal point for their redevelopment efforts, and Wells is poised to follow the same path. Taken together, these Mashpee and Winooski examples, the increase in disposable income that comes from Wells’ continued growth, and the nearby examples of more walkable retail areas in Ogunquit and Kennebunkport, all suggest that efforts to create a pedestrian district in Wells could be successful.

5 TRANSPORTATION STRATEGIES

Wells and its residents have many community assets to help them achieve their goals. However, the community has identified a number of transportation challenges that may present barriers to achieving the town's vision. These challenges include:

- Heavy summer traffic.
- Rt. 1/109 intersection is perceived as restricting traffic flow.
- Limited turning radius for trucks turning south on Rt. 1 from Rt. 109.
- Limited pedestrian opportunities, e.g., no place to walk to and not enough crosswalks.
- Unsafe conditions for pedestrians.
- MDOT is interested in redesigning the Rt. 1/109 intersection, yet lacks consensus on the final design. Several of the proposed designs may not be compatible with a safe and accessible pedestrian environment.
- MDOT has approved funding for additional sidewalks in the central area, yet is waiting for final intersection designs before sidewalks are installed.

None of these challenges is insurmountable. Across the country, communities are meeting these challenges through more strategic approaches to traffic management. Rather than focusing solely on adding lanes and traffic lights along individual streets, communities are thinking about the local roads as an integrated system, with better connections between roads and to walking and biking paths. By enhancing the number of connections between roads and between other transportation facilities, traffic can be spread out among a number of streets and travel modes, rather than concentrated on one or two major roads. Creating better connections to trails, paths, and public transit makes it easier for people to get around without a car if they choose. In addition to improving the connectivity of the street system, employing street design and appropriate land use strategies will help Wells effectively use public resources and create the kind of place the town is seeking.

Many other communities face challenges similar to Wells' when their downtown districts or main streets also serve as regional highways. Best practices from such places demonstrate how attractive and well designed infrastructure can move traffic more efficiently, make the highway meet community goals, and subsequently, make walking safer and more pleasant.

The consultant team examined the wide range of transportation issues facing Wells. Drawing from other communities' experiences and best practices, the consultant team suggested transportation options that could help Wells' residents fulfill their community vision. These options fell into two focus areas:

1) Policies that support a more walkable downtown and improved traffic flow, including:

- Hold a public design charrette focused on the Rt.1/109 intersection;
- Create a pedestrian district;
- Develop pedestrian district design guidelines;
- Consider a one-way access road for the pedestrian district;
- Consider narrowing some roads to improve pedestrian safety;
- Consider a "park once" strategy.

2) Policies that enhance existing transportation resources, including:

- Improve train and trolley service to and from the Transportation Center;
- Increase services offered at the Transportation Center; and
- Better connect bike/pedestrian pathways.

Within each policy focus area, the team suggested transportation options that could help Wells fulfill its residents' goals and vision. Although the options should not be considered an inseparable package, the effectiveness of any single strategy is enhanced when it is implemented as part of a bundle of complementary policies. Appendix A includes additional resources on using transportation infrastructure to meet multiple community goals.

5.1 Hold a public design charrette focused on the Rt. 1/109 intersection

The critical component for an effective downtown pedestrian district is a well-designed intersection at the junction of Rt. 1 and Rt. 109. Maine Department of Transportation determined the intersection needed to be realigned to the north to protect a historic building on the corner, as shown in Exhibit 7. Because of the intersection's proximity to the building, long tractor-trailers have hit and damaged the building. MDOT is working with the town to determine the final design for this intersection.



Exhibit 7: An historic building (in black circle) that has been struck by turning trucks.

Wells and MDOT have discussed different designs for the intersection. Exhibit 8 shows one of MDOT's proposed plans. Rt. 109 would move north to better align with the fire station. This move requires a larger intersection because of the angle necessary for right turns onto Rt. 1, making the intersection more inhospitable to pedestrians. MDOT stated that the primary reason for moving Rt. 109 that far north was to provide better road access for emergency vehicles. Yet, the fire chief stated that he would rather move the fire station to another location further south on Rt. 1.



Exhibit 8: One proposed intersection redesign. The fire station is the building in the black circle.

It seemed to the consulting team that there was a lack of clarity over the desired outcome of the intersection redesign. The intersection would be designed differently if the primary purpose was to protect the historic building or to create better access for the fire station. Moreover, when the proposed design was shown to the design workshop participants, none thought it improved the community overall.

In order to develop a plan for the intersection redesign that could better support pedestrian activity, Wells and MDOT could consider holding a charrette.²² A charrette is an intense four- to seven-day design workshop whose agreed goal is to create a formal design that can be built. (In contrast, a design workshop, like the one held in September in Wells, explores possible development options.) Charrettes have been used all over the country to help communities achieve consensus on preferred options for transportation and development projects.

All interested citizens are invited to participate in a charrette. Working with maps, drawings, and other tools, participants learn about what their community needs and can accommodate, share their vision of their neighborhoods and their concerns and dreams for the future, and work with each other and professional designers to create, critique, and collaborate on options. This shared achievement creates buy-in that gives a project a better chance of successfully navigating the political, economic, and environmental obstacles it may face.

The charrette approach has several possible advantages for Wells:

- Shortening the time allocated for the design process;
- Building community support for the intersection design; and
- Having an agreed-upon design, which may advance the project in the MDOT funding queue.

5.2 Create a pedestrian district

As discussed in Section 4, the consultant team responded to residents' desire for a more appealing, safer environment for people to walk, especially in the town's central area, by suggesting that the town could create a pedestrian district, which could provide several transportation benefits.

During stakeholder interviews, almost every resident reiterated a desire for an area that is safe for children, the physically handicapped, older residents, and anyone else who wants to walk. Areas that do not support pedestrian movement tend to attract less foot traffic for shops and restaurants, thereby undermining the economic vitality of a neighborhood. If people don't feel safe or welcome walking on a street, they are also less likely to use transit.

The challenges facing the town in this area include heavy highway traffic on Rt. 1, the proposed MDOT intersection design, and lack of destinations for pedestrians. These challenges also present opportunities for the town to:

1. create a retail/civic village center;
2. expand retail opportunities for traffic passing through Wells; and
3. rethink the Wells Corner intersection design.

The proposed pedestrian district allows the town to accomplish all three objectives by creating in its central area a walkable district with housing, retail, and civic uses. Exhibit 9 shows how Mashpee



Exhibit 9: Mashpee Commons, in Cape Cod, created pedestrian places within its retail center.

²² For more information on charrettes, please see the National Charrette Institute at www.charretteinstitute.org.

Commons on Cape Cod, Massachusetts achieved similar objectives.

To create the district, the town could work with Wells residents to define the boundaries of the district. As demonstrated in Exhibit 5, the consultant team suggested boundaries based on the town's surrounding land use and existing road network. However, the town and its residents will need to confirm and change those boundaries.

In addition, the town could establish district-wide policies, standards, and funding priorities. While discussed in more detail in Section 6: Land Use Strategies, typical considerations include:

- Ensuring sidewalks are installed in all new development;
- Setting standards for good, pedestrian-friendly design for each street type in the area. Design standards will differ if the street is a highway, rather than a neighborhood street.
- Determining what projects are priority investments and trying to time these with planned transportation improvements and/or new development projects.
- Making sure that the pedestrian area is attractive and encourages walking by providing shade trees, lighting, and street furniture.
- Developing land use strategies that improve an area's walkability, such as reducing building setbacks, encouraging retail uses on the first floors of buildings, allowing a mix of uses, and encouraging housing in the central area.

Some communities have found that one way to make walking more appealing is to create more destinations within a reasonable walking distance. Many communities have done this by grouping stores, offices, homes, and civic uses together. These types of mixed-use developments foster—and indeed, require—considerable foot traffic to be economically feasible. Research has shown that people are generally willing to walk up to half a mile to destinations, including public transit, shops and civic uses, and other amenities.²³ New England and Maine have many examples of these kinds of “Main Streets.” For example, Kennebunk and Ogunquit both have a village center where most people walk to the stores.

Finally, more pedestrian activity leads to a greater sense of safety—it becomes a mutually reinforcing dynamic. As more people take to the streets on foot or on bikes, other residents are inspired to follow suit. The result is often a vibrant community, where pedestrians, bike riders, cars, buses, and all other vehicles are able to co-exist. It's one reason why many community designers call the pedestrian the indicator species for a healthy community.

5.3 Develop pedestrian district design guidelines

Good walking environments are clearly part of Wells residents' vision for their town. Many communities in the U.S. have developed pedestrian design guidelines to make certain areas more walkable.²⁴ The guidelines can incorporate plan-view drawings, cross sections, and perspectives to show design elements for different types of desired pedestrian activity, as shown in Exhibit 10 and 11.

²³ Ewing, Reid with Robert Hodder. 1997. *Best Development Practices: A Primer for Smart Growth*. Washington, D.C.: Smart Growth Network, and “The Influence of Land Use on Transit Patronage” (1996) Ch 2 in *Transit and Urban Form*. Transit Cooperative Research Program Report 16, pg. 6-11.

²⁴ Some examples include: The City of Portland, OR: Pedestrian Design Guidelines: <http://www.portlandonline.com/shared/cfm/image.cfm?id=61759>. Cambridge, MA Pedestrian Plan: http://www.cambridgema.gov/~CDD/et/ped/plan/ped_plan.html. City and County of Denver, Pedestrian Master Plan: <http://www.denvergov.org/Portals/514/documents/PMPPedpolicy.pdf>.

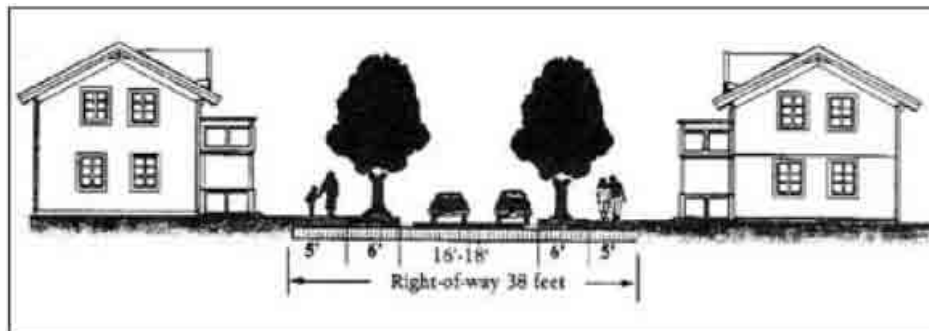
The following considerations are often included in pedestrian design guidelines:

- Which streets require on-street parking, such as internal streets within the pedestrian district, and which do not, such as areas along Rt. 1;
- Which streets require a sidewalk planting strip next to the street and/or a short or zero setback/build-to line up to the building;
- Which streets require street trees in tree wells or planters to create a canopy of shade for the pedestrian and ensure clear line of sight across the street;
- What intersections need special treatment for pedestrian crossings;
- Placing street lighting so that it covers appropriate public areas such as sidewalks, streets, and store entrances, to ensure safety;
- Maximizing access to the trolley and shuttle and to bike trails;
- Connecting neighborhood destinations with sidewalks; and
- Creating flexibility in site design so that greater densities can be accommodated over time.



Exhibit 10: Design guidelines are often illustrated with drawings to demonstrate what the town is seeking.

Exhibit 11: Design guidelines can include sample cross-section of neighborhood streets.



In general, pedestrian guidelines support two types of walking environments: (1) pedestrian places, which are usually smaller areas, perhaps several blocks, that are designed specifically for pedestrians, such as pedestrian malls or a town's common, or (2) pedestrian supportive, which are usually larger areas, sometimes encompassing much of a town or city, that allow walking as a way of getting to and from places. Both types of walking environments could be accommodated within the pedestrian district.

In areas designated as pedestrian places, possible improvements could include wide sidewalks and pedestrian plazas. While cars cross through the area, they do not dominate. Examples of areas within the pedestrian district that could be pedestrian places include the town green, the sidewalk adjacent to an access road, which is described in Section 5.4, or the area adjacent to Depot Brook Park, which is described in Section 7.2.1. In order to make an area more inviting for pedestrians, buildings could have little setback from the sidewalk, and parking lots could be behind, rather than in front of buildings.

The remaining areas within the pedestrian district could be pedestrian supportive. For example, Wells could develop separate guidelines for the Rt. 109 corridor as a pedestrian-supportive environment. This area would provide adequate sidewalks and be safe for people of all ages, but may not include all the amenities and visual interest of the pedestrian place. Even in pedestrian supportive areas, sidewalks are important as they allow pedestrians to easily access the businesses, homes, schools, and civic uses.

5.4 Create a one-way access road for the pedestrian district

Rt. 1 experiences significant congestion in summer months. This congestion can work in favor of the pedestrian district as the area receives considerable traffic traveling through the town, which many neighborhood retailers look for when deciding where their stores should locate.

The same traffic that makes the area attractive to store owners may make it difficult to create a safe walking environment. While other communities, such as Ogunquit, have adapted Rt. 1 to function as their main street, the consultant team thought another option might be to create a one-way access lane into the pedestrian district from Rt.1. This could provide easy and safe access to the retail and housing in the southern part of the pedestrian district while allowing traffic to continue through Wells' central area.

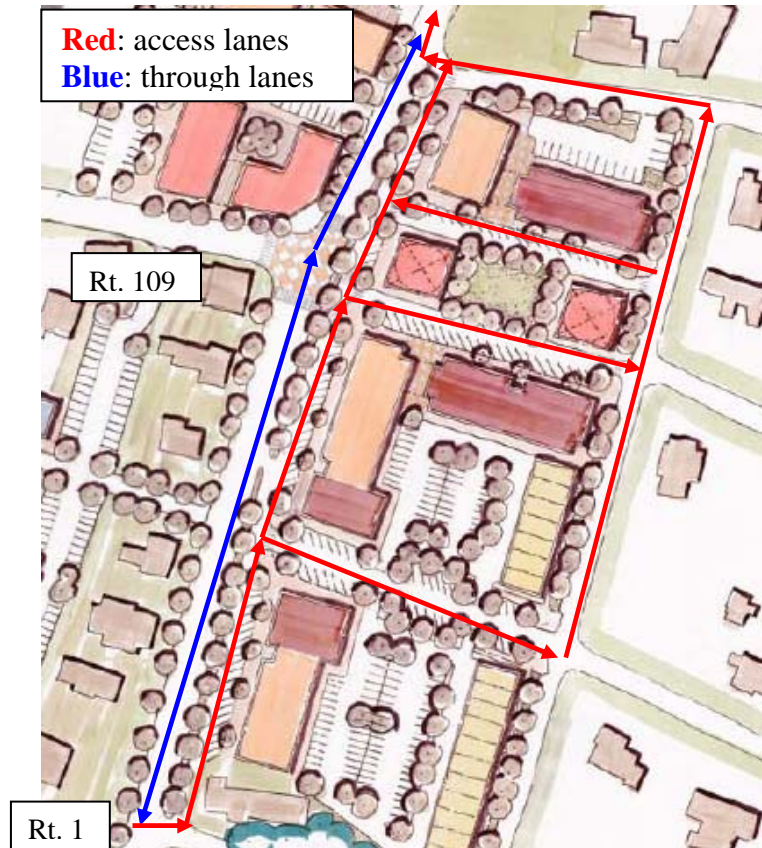


Exhibit 12: Illustration of the one-way access road

As shown in Exhibit 12, creating a one-way access road parallel to Rt. 1, just south of the Rt. 1/109 intersection, would allow northbound through-traffic to continue on the existing Rt. 1 (blue line) while allowing local northbound traffic to enter the pedestrian district at a slower and safer speed (red lines). A vegetated median strip would separate traffic on Rt. 1 from the slower-moving traffic in the access road, which would also have on-street, angled parking. The on-street parking would also create a buffer between the pedestrians and the moving traffic on the access lane. In addition to the access lane parallel to Rt. 1, the pedestrian district would have streets traversing the district, e.g., perpendicular to the access road and connecting to the existing road behind Wells Corner Shopping Center, thereby allowing additional access to stores, apartments, and surrounding neighborhood streets. These additional streets connect to and expand the town's existing street network.

This parallel access road would help address the dilemma facing this intersection: the area needs pass-by traffic to support retail but also needs to have traffic flow more smoothly during the summer. The consultant team's proposed design shows a northbound-only access road because the necessary space for the access road would become available if and when the Wells Corner Shopping Center is redeveloped.

5.5 Consider narrowing travel lanes to improve pedestrian safety

As Wells residents reported, congestion on Rt. 1 is a seasonal issue that crosses town boundaries. But this congestion directly affects Wells’ residents, especially in the Wells central area, where the town has two competing goals: pedestrian safety and traffic flow. While it is beyond the scope of this report to suggest how the region could improve the flow of the entire Rt. 1 corridor, narrowing the travel lanes is one strategy the town could consider to help balance these two goals within the central area.

Guidelines from the Institute of Transportation Engineers indicate that 10-foot wide travel lanes can accommodate approximately 20,000 vehicles per day.²⁵ MDOT estimates that average vehicles per day on Rt. 109 are 11,790 and on Rt. 1 are 15,500 south of the Rt. 1/109 intersection and 16,900 north of the intersection. Thus, Wells could narrow the travel lanes and still accommodate the same, or more vehicles, without impeding traffic flow.

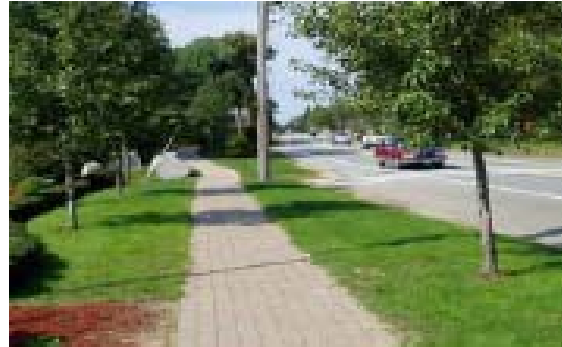


Exhibit 12: Detached sidewalks in Sanford. Photo credit: Spahr and Dabrowski, LLC.

Informal measures of travel lanes during the design workshop indicated that travel lanes were between 12 to 15 feet wide in some places on Rt. 1 and Rt. 109. This means Wells could narrow existing lanes on Rt. 109 and Rt. 1 leading to and within the pedestrian district to accommodate additional amenities, such as parking lanes, turning lanes, bike lanes, or wider sidewalks, without losing capacity.

Vehicles traveling on narrower travel lanes generally move in a slower, steadier flow. Because of slower speeds, cars and trucks are better able to adjust to other vehicles entering the traffic flow and any additional sudden vehicle actions. At higher speeds, such actions can stop traffic, which can result in traffic delays. But at slower speeds, these actions are absorbed into the traffic flow, creating a more continuous travel flow.

Research has shown that every additional foot in lane width encourages higher average vehicular speeds, regardless of the posted speed limit.²⁶ Narrow lanes naturally slow traffic, and, as Exhibit 13 shows, slower traffic translates directly to a safer

PEDESTRIANS VS. SPEED	
<u>Vehicle Speed</u>	<u>Survival %</u>
20mph	95%
30mph	55%
40mph	15%

Exhibit 13: In collisions with pedestrians, survival rates decrease as vehicle speed increases.

pedestrian environment. Narrowing the lanes on Rt. 109 and Rt. 1 will also provide the space needed for detached sidewalks, as shown in Exhibit 12, and/or bike lanes on both sides of the street. Adding one or both of these amenities will make walking and bicycling safer and more appealing.²⁷ Narrowing the travel lanes in the central area may help the town of Wells balance the competing goals of traffic flow and pedestrian safety.

²⁵ Institute of Transportation Engineers, *Context Sensitive Solutions in Designing Major Urban Thoroughfares for Walkable Communities: An ITE Proposed Recommended Practice*, 2005. p. 66. www.ite.org.

²⁶ Ashton SJ, Mackay GM (1978) Pedestrian injuries and death. In: Mason JK (ed) *The pathology of violent injury*. Edward Arnold, London, pp 38–55.

²⁷ For more information on this topic, see: “Linking Safety-Conscious Planning and Context-Sensitive Solutions.” Michael Meyer. ITE Journal, Institute of Transportation Engineers, August , 2005

In addition to improving pedestrian safety, reducing roadway width also can help MDOT deal with rising capital costs. The cost of paving a road averages \$15 per square yard. Reducing street width by four feet can save more than \$35,000 per mile of residential street.²⁸

Wells could also improve pedestrian activity and safety in the downtown core by redesigning crosswalks along Rt. 109 and Rt. 1. Street crossings are a major factor in pedestrian safety. A lack of street crossings can be one of the biggest barriers to pedestrian circulation.

5.6 Consider a “park once” strategy

The town of Wells could develop and market a “park once” strategy that encourages visitors to walk between the various destinations. This will decrease the number of short trips up and down the corridor and make the downtown a more attractive place for pedestrians. A park-once strategy has numerous components, including shared parking, reducing the amount of off-street parking businesses must provide, increasing on-street parking supply, and exploring remote parking options for beach traffic.²⁹

Many places around the country are realizing that it makes sense to meet parking needs through shared parking. Shared parking can mean sharing it between uses with different peak demand times, such as a church and a movie theater, or an office and apartment building. Or it can mean taking advantage of space on streets or one garage for multiple businesses. Simply put, shared parking means managing parking for joint goals, rather than requiring each use to provide a fixed amount. Sharing parking reduces the cost of providing parking for each individual business and frees up additional land for development because it requires fewer overall spaces. This is critical for getting high-quality development.

Steps toward shared parking and park-once strategies include:

- *Creating a Business Improvement District* or other third-party incorporated entity to negotiate for shared parking, manage parking, and hold liability. Making shared parking work requires a forum for addressing disputes or concerns among various property owners and ensuring consistent management practices. A third-party entity may also lease parking lots from individual property owners and manage them so that motorists perceive all the parking in the district as a common pool. More importantly, by leasing the parking lots, the third-party entity can assume liability for incidents that occur in the parking lots, relieving individual businesses and property owners of that burden.
- *Adjusting parking requirements.* The town can adopt an ordinance that allows for a significant reduction or elimination of minimum parking requirements in exchange for sharing parking or contributing an in-lieu-of fee.
- *Allowing off-site parking.* Currently, Wells requires retail and business land uses to provide parking on-site. This is a common municipal requirement, and it can create an over-supply of parking when spaces are built to accommodate once-yearly events, like holiday shopping. For example, a 2003 survey conducted in St. Paul, Minnesota, found that parking usage rates in major shopping centers averaged only 31 percent during weekday peak hours and 75 percent during

²⁸ See: *Green Streets: Innovative Solutions for Stormwater and Stream Crossings*. First Ed., 2002. Portland Metro; and *LEED for Neighborhood Developments. Preliminary Draft*. September 6, 2005. National Resources Defense Council, U.S. Green Building Council and Congress for the New Urbanism.

²⁹ For more information, see EPA’s *Parking Spaces/Community Places: Finding the Balance through Smart Growth Solutions*. The report provides information on a wide range of parking strategies and communities that have implemented those strategies. Available at: <www.epa.gov/smartgrowth/pdf/EPAParkingSpaces06.pdf>.

holiday peak hours.³⁰ Oversupply of parking drives up costs for developers and is an inefficient use of developable land. Secondly, when parking is accommodated with surface lots, it creates an unattractive and unsafe environment for pedestrians.

As an alternative, the town could allow off-site parking within the pedestrian district in a parking garage or an attractively designed and well-placed lot. Allowing businesses, restaurants, stores, and other uses to pool their parking requirements will make it easy for people going to the pedestrian district to park once and walk because their destinations will be close together. In addition, Wells could run trolleys or buses from these parking areas to the most popular beaches, which may reduce traffic on beach roads and increase retail sales within the pedestrian district.

- *Requiring that new parking facilities be shared.* Shared parking is unlikely to be required in a zoning code, but it can be required as part of any type of conditional use permit or negotiated plan approval process. At a minimum, shared parking could be allowed as a way of meeting parking requirements.

The surrounding land use is a critical component of ensuring that a park-once strategy works. Other communities have found that a park-once strategy works best when:

- implemented in concert with compact mixed-use development that gives easy access to multiple destinations, and
- supported with wide sidewalks to make walking more pleasant and comfortable.

Absent these characteristics, a park-once strategy will likely fail to get people out of their cars and walking between destinations.

5.7 Improve train and trolley service to and from the Transportation Center

Wells has several public transit components already in place. This provides the town with a real asset as residents consider how to build off this success. For example, the newly built Transportation Center provides easy train access to northern and southern employment centers. During the summer, two trolleys also connect beaches to the Transportation Center and other points of interest along Rt. 1. The Shoreline Trolley has only been operating one year, but its ridership doubled from the beginning of the season to the end. Additionally, MDOT has agreed to continue funding the system for another four years. Exhibit 14 shows the various shuttle and trolley routes available during summer months.

The town could consider expanding connections between the Transportation Center and the central area. It could launch special trolley runs that coincide with the Amtrak

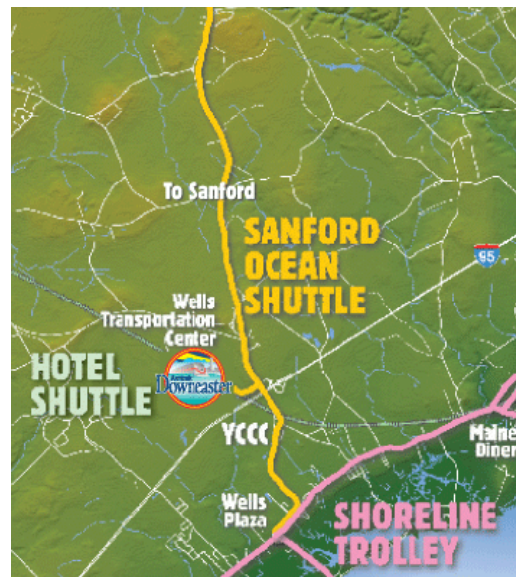


Exhibit 14: Existing shuttle and trolley routes

³⁰ The McKnight Foundation. Transportation and Placemaking: An Overview. Available at: http://www.mcknight.org/hotissues/transportation_1.aspx

arrival and departure times. This type of schedule coordination may help increase ridership on both the trolleys and the Amtrak train. In addition, the town could move trolley/shuttle transfers to the central area. Increased use of these transit systems could help reduce the time residents spend in traffic during summer months and help build the demand for increased frequency or additional runs of the trolley.

Development in close proximity to transit has tremendous economic benefits.³¹ For example, the America Association of Retired Persons found that 71 percent of older householders want to be in walking distance of transit. Given that Wells is attracting an older population and this same population wants to be close to transit opportunities, Wells could reap considerable benefit from building on existing routes.

5.8 Increase services offered at the Transportation Center

Along with better schedule coordination, Wells could offer more services at the Transportation Center that, especially during the summer, could increase ridership. The town could develop public/private partnerships to attract services that would make the train station more convenient and attractive. Examples include bike rentals, guided bike tours of the area's natural resources, and small shops and carts offering coffee, drinks, hot dogs, and other items. These services would benefit commuters and recreational visitors. The town could also treat the station as an arrival point—making it a gateway to the region.



Wells Transportation Center

5.9 Better connect bike/pedestrian pathways

At the same time Wells is thinking about possible structural and policy changes to its road network, the town might also consider the way people walk and bike. Walking and biking are facilitated by good path design, including connections between paths, roads, and destinations such as schools, community centers, stores, or the beaches.³²

To try to address these issues, the consultant team suggested that Wells could consider expanding the existing network of paths for walkers and bikers by building more trails and paths and better connecting existing trails. For example, Maine's Eastern Trail has several access points in Wells. These access points could be better integrated with other trails in Wells, such as the trail that connects the three schools, as well as with the Wells Transportation Center and Trolley.

Maintaining and increasing the bike and pedestrian network can reap economic dividends too. As the residents of Wells and Maine already know, research has shown that hiking and biking trails can stimulate tourism. Each year, more than 100,000 people come to ride the famous Slickrock Mountain Bike Trail near Moab, Utah. The trail generates more than \$1.3 million in annual receipts for Moab, part of the \$86 million spent by visitors on nearby desert attractions.³³ Trails along former railroad corridors also

³¹ All references are from Reconnecting America's "Benefits of TOD" powerpoint presentation, which is based on the Center for Transit-Oriented Development's 2004 National Market Study.

³² For more information on design elements that encourage walking, see Ewing, Reid. 1997. *Pedestrian-Friendly and Transit-Friendly Design: A Primer for Smart Growth*. Smart Growth Network: Washington, D. C.

³³ Moab Chamber of Commerce.

pay dividends. For example, in Dunedin, Florida, store vacancy rates tumbled from 35 percent to zero after the Pinellas Trail was built through the town. In another example, research found that in 2003, the Maryland Northern Central Rail Trail near Baltimore cost approximately \$200,000 to maintain and operate, yet returned over \$300,000 in state and local taxes.³⁴

³⁴ Roger L. Moore, et al. 1991. *The Impact of Rail-Trails: A Study of the Uses and Property Owners from Three Trails.* National Park Service: Washington, D.C.

6 LAND USE STRATEGIES

During the design workshop, Wells residents described the future they wanted for their town, and the consultant team offered a visual image of that future. The next step in the process is to consider land use strategies that can help the town implement the vision. Appendix A includes additional resources for developing and implementing land use strategies that town may wish to consider.

These drawings do not imply that the town must or should buy certain parcels of land or develop these properties. The town can put in place zoning, ordinances, standards, and guidelines for developers to establish its expectations as properties change owners and/or as piecemeal redevelopment occurs. Clarity reduces uncertainty, so the clearer the town can be in its expectations of the type of development it wants within the pedestrian district, the more confident developers will feel about projects there. When expectations for redevelopment plans are clear, only those developers wanting to build in that manner will be interested as property becomes available. The town need not be involved in the development process outside of setting expectations, which it does through its land development regulations, such as zoning. The town can consider several other land use strategies, in addition to zoning, to establish expectations for developers and residents.

6.1 Determine boundaries for the pedestrian district

Wells could set specific boundaries for the pedestrian district. Knowing what would be in and what would be out helps create predictability in the development process. As is often quoted in planning and development fields, “Money follows plans.” One way to start this conversation is to lay out a proposed boundary for the district, such as the one shown in Exhibit 15. In an open dialogue, residents will be able to comment on the proposed boundary or suggest a different one. The most important element of this process is to ensure that participants understand that they are helping to establish the boundaries.



Exhibit 15: To start a town dialogue: possible boundaries for the pedestrian district.



Exhibit 16: Possible elements in a specific area plan for the pedestrian district

6.2 Create a specific area plan

The town could consider creating a specific area plan, sometimes called a master plan, for the pedestrian district. The process gathers input from residents and allows the town not only to consider each of the design elements described in this report to determine which, if any, could be included in the district, but also to brainstorm about additional design elements or land uses not considered during the design workshop. This process allows additional community dialogue about where and how Wells could grow and also can create developer interest. Having a plan in place makes the development process more predictable. Exhibit 16 demonstrates some of the information that can be found in a specific area plan.

6.3 Modify land development regulations within pedestrian district

Many of the policy options suggested in this report cannot be implemented under the town's current regulatory framework. In order to attract and build the type of development that will help Wells' residents achieve their vision for the town, Wells could modify current land-development regulations just within the pedestrian district. One way to do this is to establish an interim planning overlay district, which would allow the town to implement the community's goals and vision for the pedestrian district. While not a complete list, the following are examples of regulations that could be modified:

- Wells currently allows only 156 residential units to be built every year. Wells could exempt residential units built within the pedestrian district from this quota, thereby preserving growth controls in remaining town areas.
- In addition, mixed-use buildings are not currently allowed. Wells could allow mixed-use buildings only in the pedestrian district.
- Currently, off-site parking for retail and business is not allowed. This regulation could be modified to allow businesses in the pedestrian district to meet their parking requirements using a combination of on-street parking, shared parking, and off-site parking.

6.4 Create a clear development process

To achieve the community's vision, the town could consider creating a process that supports development proposals consistent with its vision and makes the approval process timely, cost-effective, and predictable for developers. By creating a regulatory environment that supports compact, pedestrian-oriented, mixed-use projects, Wells shows developers exactly what kind of development it wants, which makes private investment in the central area more predictable and therefore more attractive.

To create a common understanding of how the planning and approval process works, guidelines should indicate at what points a development team should consult with town officials, get input from the public and regional planning or other agencies, and seek specific zoning and regulatory approvals. Developers want certainty and will be more inclined to work toward community goals if the steps they need to follow are clear.

6.5 Create an ongoing development review process

Applicants for development could coordinate with the town planning staff early in the planning and design process to discuss issues particular to a development site. Modifications suggested by staff review and public comments can most easily be incorporated at the conceptual stage, before significant time and

effort have been spent preparing construction drawings. Photographs, site and vicinity analyses, and conceptual site plans and drawings should all be submitted to show the relationship between the proposed development, adjacent properties, and the surrounding neighborhood. A pre-proposal conference for any project that meets a minimum size threshold can provide valuable information to both developers and communities.

For example, the Capital Center District Commission in Providence, Rhode Island—which shares with the city design-review and project-approval responsibility for projects within the district—has a clearly articulated review process. It requires development teams to hold initial brainstorming sessions with the commission’s design-review committee to foster a shared understanding of the design and use goals, unique project challenges, and other issues that will shape the planning and design process. These early discussions not only help the development team understand the commission’s goals, but have proven equally valuable in helping the commission’s members understand the market and other issues that shape development decisions. Commission members have been able to work with the development team to resolve problems that might otherwise have stood in the way of desirable design elements.

6.6 Develop and adopt design guidelines for the pedestrian district

Design guidelines and standards provide detailed guidance for developers about a local government’s desired development forms. Design guidelines are an effective tool for specifying, in drawings and photographs, the desired “look and feel” of a place that has been defined by the zoning and development requirements. They usually include visual examples to help developers understand what is acceptable and unacceptable to the community and facilitate consistent findings by municipal staff and project review boards. Design guidelines that support the community’s vision for future development could include the following concepts:

- promote connections to—rather than isolation from—adjacent areas;
- provide visual interest and variety;
- balance higher densities with open-space amenities;
- include a variety of housing types;
- mix uses where feasible; and
- incorporate architectural elements that reflect the character of the community.

Design guidelines are valuable in conveying the intent and objectives of zoning and other regulatory requirements. At the same time, they offer assurance to investors and developers that future projects will be held to the same high standards as those currently under review.

6.7 Maintain an ongoing dialogue with the public

Growth can create great places to live, work, and play—if it responds to a community’s sense of how and where the community wants to grow. Articulating this



Wells could build on the dialogue started during the Design Workshop.

vision can be a challenge because the vision should reflect the needs of a wide range of stakeholders and community members. This challenge presents an opportunity because this process allows stakeholders to help develop creative solutions to the most troublesome problems. Ultimately, community and stakeholder collaboration can create a sound basis for creative, speedy resolution of development conflicts, which can help make development decisions more timely, cost-effective, and predictable. An open, ongoing dialogue with the public will:

- Create better development projects and enhance a community’s economy, quality of life, public health, and environment;
- Provide a process that is more predictable, democratic, and fair, thereby making the public process more meaningful and result oriented; and
- Provide more tools and strategies for civic engagement to create better development projects.

Ongoing community-wide education and discussion will continue the process—inaugurated during development of the master plan—of building a strong and articulate constituency for the community’s visions and goals. Wells’ community education could be supplemented by a clear and mandatory process of consultation for developers, including community review, to build a common understanding of the opportunities and challenges that each project presents.

7 STORMWATER MANAGEMENT STRATEGIES

Protecting Depot Brook is a central goal for the town. Wells residents repeatedly stressed that they wanted Depot Brook to remain healthy, offer opportunities to educate people about ecology and the environment, and attract tourists. There are numerous stormwater management strategies Wells could implement in the pedestrian district and elsewhere that would help protect Depot Brook.

Water quality protection strategies are often implemented at three scales: the region or larger watershed area, the community or neighborhood, and the site or block. Different stormwater approaches are used at different scales to afford the greatest degree of protection to waterbodies, as pollution influences to waterbodies are often found at all three scales.

For example, decisions about where and how to grow are the first and perhaps most important decisions related to water quality. Strategies related to these broader growth and development issues are often implemented at the regional or watershed scale. Once municipalities have determined where to grow and where to preserve, different stormwater management measures are applied at the neighborhood or community level. These measures, such as road width requirements, often transcend specific development sites and can be applied throughout a neighborhood. Finally, site-specific stormwater strategies, such as rain gardens and infiltration areas, are incorporated within a particular development and are generally outlined in the site's stormwater permit.

To protect Depot Brook, the town of Wells could employ a multi-stage strategy that includes stormwater management approaches at all three scales:

1. **Region/Watershed.** Land use approaches that will provide the town with information about where and how to grow include:

- Using land efficiently; and
- Protecting habitat value.

2. **Neighborhood/Community.** Strategies to protect Depot Brook when new development or redevelopment occurs within the central area or elsewhere in the town include:

- Creating new public open space, e.g., Depot Brook Park;
- Linking stormwater management and transportation strategies;
- Fostering unique and attractive streetscapes; and
- Preserving and planting trees.

3. **Block/Site.** Site strategies and retrofit opportunities include:

- Maximizing areas for absorbing rainwater;
- Reducing hard surfaces associated with streets, roads, and parking lots; and

Of course, some stormwater management strategies can be applied at several scales. For example, maximizing infiltration opportunities can occur at the neighborhood and site levels. A comprehensive stormwater management approach for the pedestrian district and elsewhere in the region will not only help protect Depot Brook, but all waterbodies in the region. Appendix A includes additional resources for developing and implementing a comprehensive stormwater management approach.

7.1 Regional Stormwater Approaches

Land development directly affects watershed functions.³⁵ When development occurs in previously undeveloped areas, the resulting alterations to the land can dramatically change how water is transported and stored. Residential and commercial development create impervious surfaces and compacted soils that filter less water, which increases surface runoff and decreases ground water infiltration. These changes can increase the volume and velocity of runoff, the frequency and severity of flooding, and peak storm flows.

Moreover, during construction, exposed sediments and construction materials can be washed into storm drains or directly into nearby bodies of water. After construction, development usually replaces native meadows, forested areas, and other natural landscape features with compacted lawns, pavement, and rooftops.³⁶ These largely impervious surfaces generate substantial runoff. For these reasons, limiting or minimizing the amount of land disturbed and impervious cover created during development can help protect water quality.

There are three primary land use strategies Wells could use to protect their water resources, such as Depot Brook, and to accommodate future development, including:

- Preserve large, continuous areas of absorbent open space and natural lands;
- Preserve critical ecological areas, such as wetlands, floodplains, groundwater recharge areas, and riparian corridors; and
- Minimize overall land disturbance and impervious surface associated with development.

Some communities have interpreted these strategies to mean that low-density development will best protect water resources. However, some water-quality experts argue that this strategy can backfire and actually harm water resources. To help clarify this issue, EPA recently released *Protecting Water Resources with Higher-Density Development*,³⁷ which helps communities better understand the impacts of high- and low-density development on water resources. The report concludes that increasing densities in some areas can better protect regional water resources.

The town of Wells could implement the following approaches. These techniques can also serve as overall guidelines for maintaining and enhancing water resources as Wells grows and develops.

7.1.1 Using Land Efficiently

Using land efficiently can help Wells better manage its stormwater by putting development where it is most appropriate and protecting large areas of natural land. For example, Wells may wish to cluster new development in growth centers, thereby allowing higher density development in some areas while discouraging development in other, undisturbed areas. Moreover, the town may wish to direct development away from undeveloped parcels, such as the wide bands of forests found throughout the town, to already degraded areas, such as underutilized parking lots. Some communities have realized they can reduce stormwater runoff if they take advantage of vacant or underused properties, such as infill, brownfield, or greyfield sites, e.g., parking lots or abandoned malls. If abandoned shopping centers were

³⁵ See EPA, *Protecting Water Resources with Higher Density Development*, 2006, EPA 231-R-06-001 and Arnold, C., and C. J. Gibbons, 1996. "Impervious Surface Coverage: The Emergence of a Key Environmental Indicator." *Journal of the American Planning Association*, 62.2: 243-258.

³⁶ Schueler, Tom. 2000. "Compaction of Urban Soil." *Techniques for Watershed Protection*. Ellicott City: Center for Watershed Protection.

³⁷ Available at www.epa.gov/smartgrowth/publications.htm or by calling

redeveloped, the net increase in runoff would most likely be zero—or it might even decrease, depending on the on-site infiltration practices that are used.

7.1.2 Protecting Habitat Value

Wells could accommodate growth and improve the habitat quality of Depot Brook if it can reduce the negative impacts of transportation and development. Using less land for development, preserving critical ecological areas, and reducing runoff are vital to maintaining a healthy habitat. In addition, protecting and enhancing other natural resources, such as upstream wetlands and significant stands of trees and shrubs within the brook's corridor, will help ensure a healthy habitat. Preserving these natural features also improves quality of life for residents and visitors by creating new places for recreation, protecting beautiful natural scenery, and reinforcing Wells' natural heritage.

7.2 Neighborhood Stormwater Management Strategies

After determining where to grow and where to preserve, Wells could consider community- or neighborhood-level stormwater management strategies. These strategies can enhance a neighborhood's sense of place, protect community character, and save taxpayers money.

The strategies that meet multiple community objectives are generally not the traditional engineered approaches, such as detention ponds, which are often difficult to install in urban areas or on sites where available land is limited, such as infill sites. Rather, neighborhood-level stormwater management involves better incorporating natural landscape features or natural functions into development projects, streets and roads, and individual buildings. These approaches can dramatically reduce pollution, decrease runoff volume, reduce runoff temperature, protect aquatic habitat, and create more interesting places to walk, ride, drive, or visit. When used in combination with regional strategies, these approaches can prevent, treat, and store runoff and associated pollutants.

These strategies can involve retrofitting existing buildings, streetscapes, and roadways or incorporating these practices into new developments. Implementing these strategies, whether as part of or separate from a broader redevelopment plan, could help the residents of Wells achieve their goals of protecting Wells' natural heritage, creating more opportunities for pedestrians, and strengthening Wells' sense of place.

7.2.1 Creating New Public Open Spaces, including Depot Brook Park

New England communities have long recognized the value of open space, as its first towns were organized around the town common that was used as a park, public gathering area, market, and a common grazing field for cattle. In recent decades, Americans have demonstrated their preference for living near or adjacent to parks or other open space areas by their willingness to pay a premium for housing located near to parks, natural areas, or other types of open space.³⁸ Nationwide, easy access to parks and open space has become a new measure of community wealth and an important way to attract businesses and residents by guaranteeing both quality of life and economic health. Indeed, Davidson, North Carolina, a small town and recipient of the 2004 National Award for Smart Growth Achievement in Overall Excellence, requires a park within a five-minute walk of all new housing.

In addition, open spaces can benefit the environment by slowing and reducing stormwater runoff, absorbing sediments, serving as flood control, and helping to recharge groundwater sources. For public

³⁸ Trust for Public Land. 1999. *Economic Benefits of Parks and Open Space: How Land Conservation Helps Communities Grow Smart and Protect the Bottom Line*. TPL: San Francisco, CA.

recreation and ecological function, Wells could consider creating and enhancing public open spaces. Any new development, including redevelopment of existing areas, could incorporate open space, parks, or green places. Creating these spaces provides an opportunity to slow, treat, and store stormwater.

One such opportunity may be to create a new park or open space area adjacent to Depot Brook at its intersection with Rt. 1/109. A new centrally located park could be a destination for pedestrians, perhaps serving as a central point in a path/trail system that links paths in the forests to trails to Wells' beach. The town owns the property along Depot Brook that is behind the community center, and the town could establish an easement on this property so it could serve as an anchor for the park. In addition, the process of attaining that easement may initiate a partnership with other landowners adjacent to the brook, which could help establish a linear easement along the brook.

The park could be designed with stormwater management functions that would slow and treat the flow of stormwater into the brook while at the same time creating "water art," e.g., sculpture or features that move when it rains. The brook slopes would be protected with native vegetation to slow the flow of



Exhibit 17: Rendering of what Depot Brook Park might look like. Notice the steps that lead from the pedestrian walkway to the brook. The steps slow runoff and create a water feature when it rains. Public access to the brook in the pedestrian district provides education opportunities while preserving the upper, more undisturbed areas of the brook.

rainwater or runoff into the brook. Educational plaques could be installed throughout this area to teach visitors and residents about the brook and the species found in it. Exhibit 17 illustrates what this park and water feature—the stepped area that leads from the sidewalk to the brook – could look like.

7.2.2 Linking Stormwater Management and Transportation Strategies

The residents of Wells listed several inter-related priorities for their town: increasing areas for pedestrians to walk and bike, making these activities safer, respecting Wells' natural heritage, improving traffic flow, and helping to create a more distinctive community that helps to define Wells. A neighborhood

stormwater management approach can connect these priorities because it can be applied to a range of transportation strategies -- from walking and bike paths to access roads.

Exhibit 18 on the next page shows a range of natural stormwater management options that could be incorporated into the spectrum of paths, streets, and roads that exist in the town. In all examples, the stormwater management strategies are incorporated into the neighborhood's streetscape. From country lanes to residential streets, natural approaches to stormwater management can help slow traffic, make pedestrians safer, and protect and enhance tree canopy and natural features, which are abundant in Wells. Natural methods that infiltrate, reuse, or evapotranspire (allow water to evaporate back into the air) stormwater runoff offer greater environmental benefits, are more visually attractive, and can be less expensive than traditional methods of stormwater control.³⁹

Using natural infiltration approaches to address runoff from streets can be applied to larger roads with on-street parking and additional lanes. Exhibit 18 demonstrates how street-edge infiltration practices could be used on wider streets, including those with on-street parking. Runoff that is captured by these natural systems is runoff that does not enter any system or the brook. In addition, this captured runoff could serve many useful purposes, such as recharging ground water resources. Wells could consider adopting a policy that incorporates these natural elements into new roads or during maintenance/redesign efforts to existing roads.



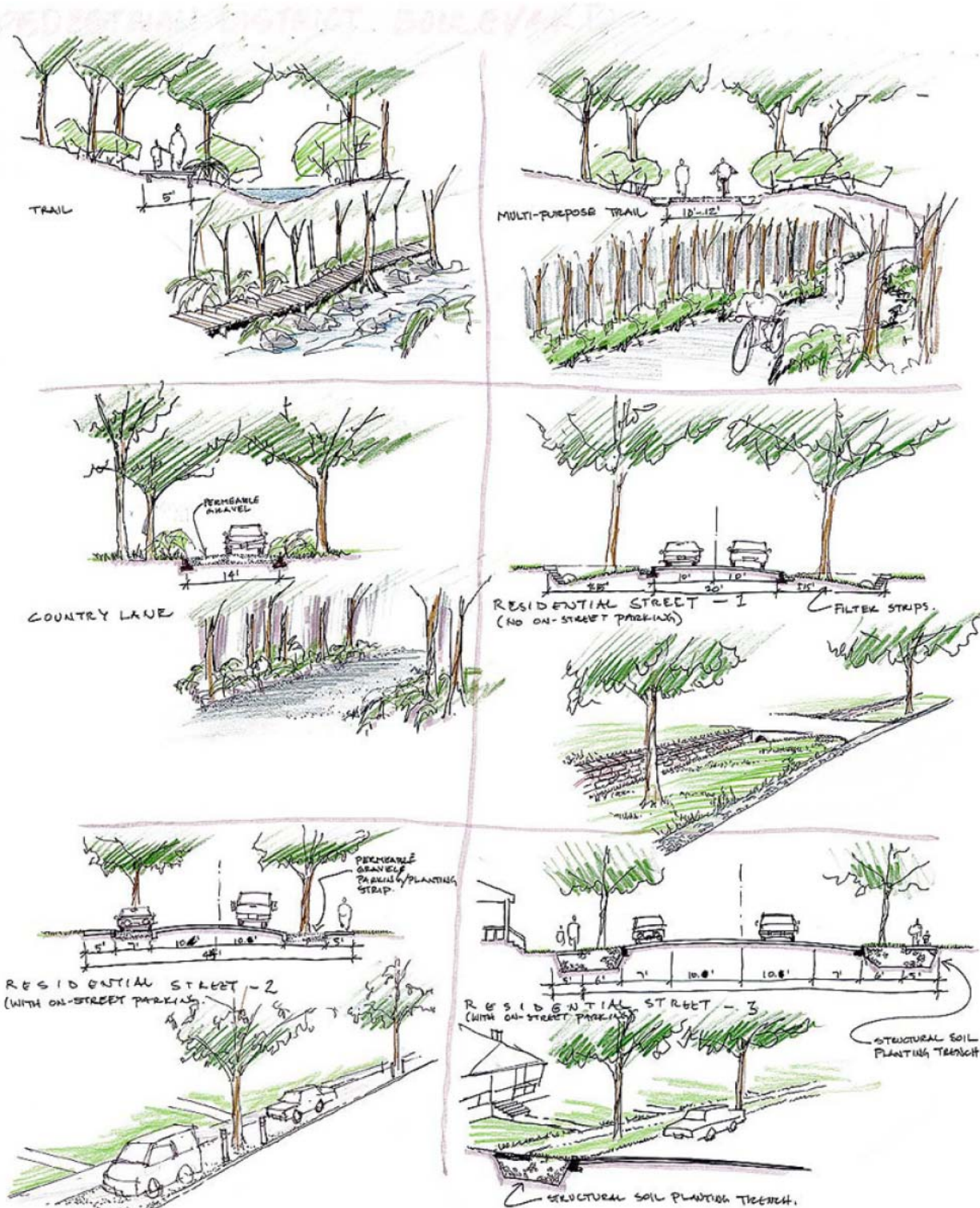
The town of Wells has experience with infiltration approaches. The new medical center on Rt. 109 has a good example of a swale that manages stormwater on-site.

In addition, narrower streets also play an important role in stormwater management. Overly wide streets create more impervious surfaces. The town of Wells could consider narrowing streets to reduce impervious cover. Indeed, the new neighborhood development standards developed by the U.S. Green Building Council⁴⁰ set the objective of reducing impervious area and street runoff by 25 percent. This goal can be accomplished by reducing lane widths and by using natural infiltration techniques in medians, parking spaces, and lane edges to reduce runoff from streets.

³⁹ Kloss, Christopher and Crystal Calarusse, 2006. *Rooftops to Rivers: Green Strategies for Controlling Stormwater and Combined Sewer Overflows*. Washington, D.C.: NRDC.

⁴⁰ LEED ND- Leadership in Energy and Environmental Design—Neighborhood Development, <<http://www.usgbc.org/DisplayPage.aspx?CMSPageID=148>>.

Exhibit 18: These renderings demonstrate how infiltration practices could be implemented with the range of Wells' roads. In addition, runoff and other road pollutants could be captured using buffer strips, which also better protect pedestrians from traffic. The renderings also demonstrate how infiltration practices can work with more lanes and on-street parking.



7.2.3 Fostering Unique and Attractive Streetscapes

Neighborhoods are often defined by their streetscapes. The type and location of buildings and the sidewalk width can be key indicators of entering a neighborhood, a residential area, or a commercial street, but design elements are also important to creating a sense of place. Planters with native vegetation, brick sidewalks, trees lining the street – all these elements create an atmosphere that lets people know whether they are welcome in the neighborhood, what kind of activities happen there, and how much pride the town takes in that street.

Wells can build streetscapes that are safe for pedestrians and accessible to vehicles while also managing runoff. Integrating natural and man-made features in a green streetscape can help provide a unique identity for Wells, which was an often-stated goal for residents. This design approach can create a streetscape that reduces runoff, protects water resources, and be implemented throughout the community.

As Exhibit 19 demonstrates, green streetscapes use vegetation to facilitate natural infiltration of stormwater also contribute to a community’s sense of place by creating attractive, distinctive design. Pedestrians feel welcome and comfortable when they see an environment designed to appeal to them. They can tell that the residents of the town care about the community from the careful attention to the design details and the overall experience of the streetscape.

Design solutions that reduce impervious surface for parking and roads use landscape elements that are usually part of the streetscape, such as planter gardens, trees, and pavement, and augment these features with soils that absorb more water, resulting in a bioretention solution. Strategically placed, these design solutions can serve as a stormwater management system for the area.

Any building, house, school, block, parking lot, street, or road could be modified to include some type of infiltration practice. For example, Portland, Oregon, created “curb extensions,” shown in Exhibit 20. The extensions have the capacity to manage runoff from a 25-year storm event, and also slow traffic, create a more interesting pedestrian environment, and reduce pedestrians’ crossing distance.

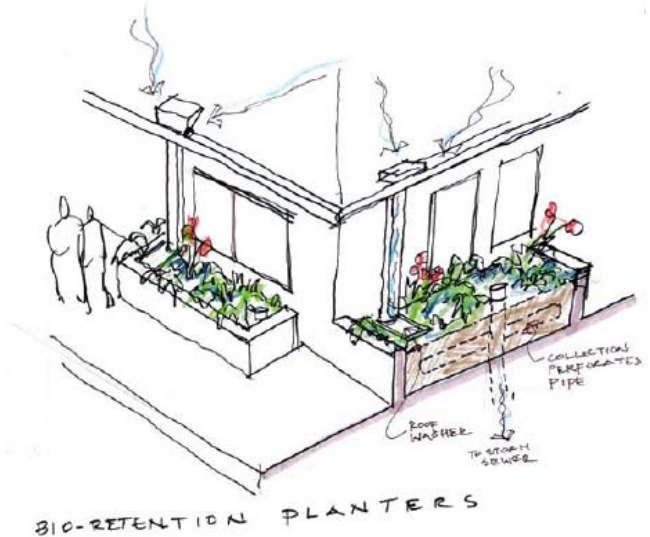


Exhibit 19: Bioretention planters, above, capture stormwater runoff, improve pedestrian safety, and create a more interesting streetscape.



Exhibit 20: Stormwater curb extensions are functional and attractive additions to a streetscape. Street runoff flows into the landscaping and soaks into the ground.

7.2.4 Preserving and Planting Trees

Neighborhoods are often defined by their trees, which offer an excellent infiltration opportunity and perform a variety of additional functions that reduce runoff volumes and improve water quality. Leaf canopies intercept and hold large quantities of rainwater on the leaf surface, preventing it from reaching the ground and becoming runoff. Root systems create voids in the soil that facilitate infiltration. Trees also absorb and transpire large quantities of ground water, making the soil less saturated, which allows more stormwater to infiltrate. Through the absorption process, trees remove pollutants from stormwater and stabilize them. Tree canopies shade and cool paved areas, which reduces the temperature of the runoff that flows across the paved surface. Lastly, trees are attractive and make walking more pleasant.

As many residents reported, the tree canopy is vital to Wells' identity. A tree-lined streetscape along the corridor could make walking and bicycling safe and more pleasant, improve the quality of life for the residents and visitors, and improve the overall ecological health of Wells. Exhibit 21 demonstrates how Wells could create such a streetscape.

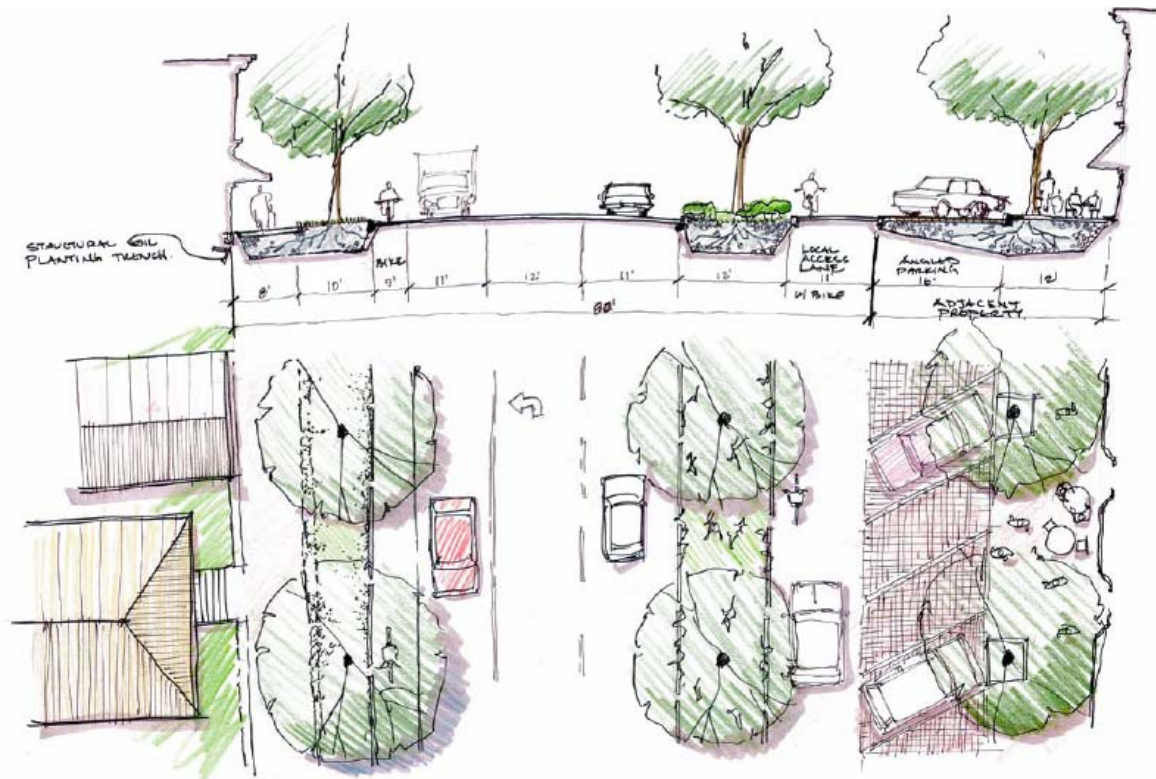


Exhibit 21: Street trees can be incorporated into the pedestrian district and into any road or streets in Wells.

7.3 Site-Specific Stormwater Management Strategies

The design of any development, including streets, parking, and open spaces, can incorporate site-specific design solutions that can help stormwater evapotranspire, infiltrate, and retain and reuse. Within Wells and in the proposed pedestrian district, there are numerous opportunities to install stormwater management approaches, such as garden planters, permeable pavers, or other infiltration techniques that can address runoff on-site.

As Exhibit 22 shows, the concept plan for the pedestrian district incorporates many design elements that would make the district a safer, more attractive, and more pleasant place for the community, but that also specifically manage stormwater runoff and associated pollutants by retaining and infiltrating the water on site with more absorptive soils and using water-loving vegetation. This section highlights some of those design elements and suggests other strategies the town could implement to reduce runoff into the brook and to help maintain and improve its ecological health. These strategies offer many other benefits as well, including creating destinations for residents and tourists, using the town’s resources more efficiently, and enhancing Wells’ character and sense of place.

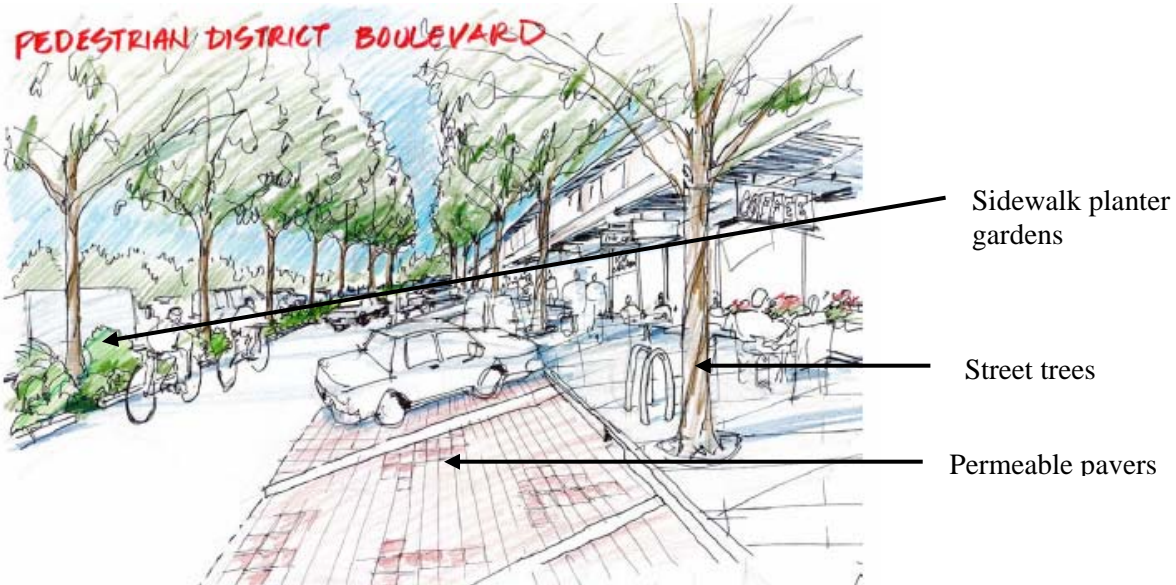


Exhibit 22: Stormwater management design elements that could be incorporated into pedestrian district

7.3.1 Maximizing Areas for Absorbing Rainwater

The overall objective is to manage stormwater on-site, which means getting more infiltration. This type of approach allows runoff to be used as a resource – something to be valued—instead of a pollutant—something to be treated or whisked away. The design of new development, including the proposed pedestrian district, can incorporate site-specific design solutions into streets, parking, sidewalks, and open spaces that will allow stormwater to infiltrate.

The pedestrian district offers numerous opportunities to install facilities that maximize infiltration, such as rainwater gardens or sidewalk planter gardens. The stored water in the planter area slowly infiltrates over a period of days into the storm sewer system or, if site conditions are favorable, into the underlying soils. Exhibit 23 demonstrates what a sidewalk planter garden could look like in the pedestrian district.

Planter gardens can also include street trees, which can help increase the amount of stormwater that is absorbed on site. On average, a single tree can intercept and absorb anywhere from 800 gallons to almost 2,400 gallons per year. In addition to reducing overall runoff through interception of rain by the leaf

canopy (thus slowing the rate rain falls directly to the ground), trees treat runoff through their root systems that create spaces in the soil that allow the soil to hold more water.⁴¹

Another bio-retention solution the town could use in the pedestrian district, and elsewhere in town, is permeable pavers or porous pavements. These pavers can take many different forms, but the terms refer to pavement surfaces that allow water to pass through them. Areas can be designed with permeable pavers built over a reservoir to further detain stormwater and slowly release it to the surrounding soil. These two systems can also filter out pollutants associated with stormwater runoff. For the design of the pedestrian district, the team suggested angled parking to double the space of these pavers, essentially doubling this aspect of stormwater management. Permeable pavers could also be used, for example, on sidewalks, emergency vehicle lanes, and parking spaces behind buildings.

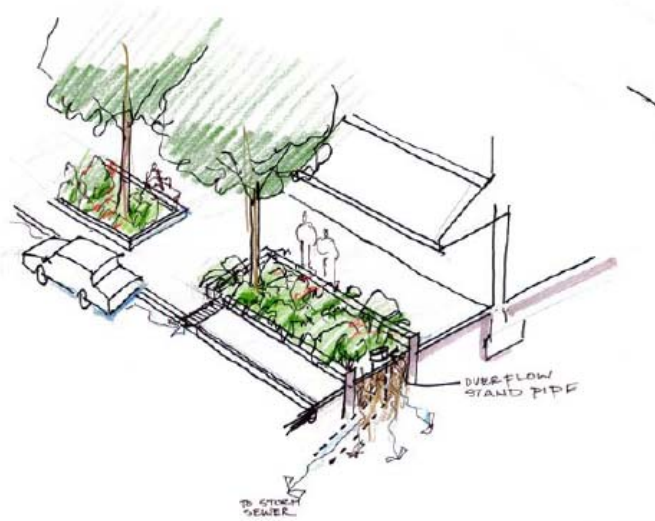


Exhibit 23: An example of a sidewalk planter garden. These can be either raised or at ground level.

Wells could look for places in town to add bioentention planters, sidewalk planters, or other infiltration devices. In addition, for new development or redevelopment projects, the town could consider requiring that a certain percentage of runoff, for example 25 or 50 percent, be captured on site via infiltration.

7.3.2 Reducing Hard Surfaces Associated with Streets, Roads, and Parking Lots

Large amounts of runoff can adversely impact Depot Brook and its watershed. Streets, roads, and parking for cars can create large swathes of impervious cover, which can create significant runoff. Many communities have found that one successful strategy for reducing hard surfaces is to assess street and road design guidelines and parking lot design. By reducing the size of roads and parking lots and changing how these surfaces function, communities can reduce the environmental impact of parking.

Section 5.5 discussed how Wells could narrow roads to increase pedestrian safety. Narrowing roads can also reduce the impervious surfaces, as Exhibit 24 illustrates. This can be a particularly effective strategy for new roads or intersections. The town of Wells could assess their street and road width requirements and design guidelines to determine if opportunities exist to narrow the travel lanes, create planted medians, or install stormwater curb extensions—all strategies to reduce the impervious surfaces.



Exhibit 24: Narrow travel lanes and on-street parking help reduce runoff.

⁴¹ Belan, Gary and Betsy Otto. 2004. *Catching the Rain: A Great Lakes Resource Guide for Natural Stormwater Management*. Washington, D.C.: American Rivers.

Another strategy to reduce impervious cover is to assess parking requirements—particularly those for parking lots. Exhibit 25 shows the Wells Corner Shopping Center and its excess of parking spaces. Better balancing parking demand and supply could help remove some of these excess spaces. As discussed in Section 5.6, some communities, especially those that experience high demand for parking during certain seasons, have found that “park once” and shared parking strategies help balance parking supply and demand.



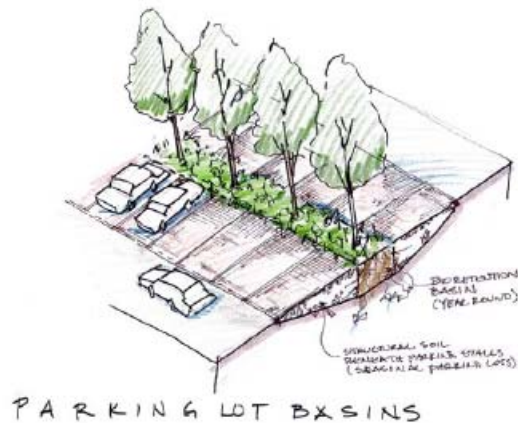
Exhibit 25: Wells Corner shopping area parking lot

While these parking strategies were suggested for the pedestrian district, they need not be limited to the central area. Wells could consider revising parking requirements throughout the town to encourage more shared parking between complimentary uses. Reducing some parking supply would free up land that could be redeveloped or made into community open space. Redeveloping existing degraded surfaces, such as parking lots, is an excellent stormwater management strategy as it allows the community to reap the economic benefits of growth while not increasing net stormwater runoff.

In addition to incorporating design strategies into new development or redevelopment of the central area, Wells could also consider retrofitting existing parking lots to add infiltration elements to store runoff on site. Exhibit 26 demonstrates how infiltration basins could be incorporated into existing parking lots to reduce runoff. These basins generally require little space and add more greenery to the streetscape. A retrofit strategy may help improve Depot Brook’s health more quickly than waiting for new development to happen. Exhibit 26 demonstrates how these retrofit practices could be incorporated into existing parking lots.



Exhibit 26: This parking lot retrofit (above) and parking lot basin (right), demonstrate how adding infiltration basins requires little space and adds more greenery to the streetscape.



8 NEXT STEPS

For some Wells residents, the options discussed in this report may sound about right; for others, they may spur further conversation on what the town and Depot Brook will look like in the future. As the town and its residents work together to determine Wells' future and which strategies to pursue, there are some effective approaches the town may wish to consider as it continues the dialogue about how Wells can grow and protect Depot Brook.

- *Bundling policies.* Although any one of the strategies can be implemented on its own, any single strategy will be more effective if it is implemented as part of a bundle of complementary policies. For example, a greater diversity of housing types, expanded trails, a pedestrian district access road, or a public space serving as a community gateway could each individually make downtown more lively, walkable, and family-friendly, but each will have a greater effect when combined with supporting policies.
- *Prioritizing strategies.* The town could also consider prioritizing the strategies it chooses to undertake. As implementing complementary policies can increase the effectiveness of each policy, so too can determining on which policies or strategies to focus initial attention and resources. One criterion the town could use to prioritize is to determine which policy or strategy would yield the outcomes most important to town residents.
- *Gathering community input.* Specific next steps that Wells could take reflect lessons learned from communities across America that have implemented their visions. Communities that have made investments in public participation have found that they have recovered these extra costs in the form of more attractive, livable, sustainable, and valuable development and communities. Wells could consider holding a series of workshops or outreach meetings to get feedback from its residents about some of the strategies discussed in this report.

Growth can create great places to live, work, and play—if it responds to Wells' sense of how and where it wants to grow. Articulating this vision, however, can be a challenge because the vision should reflect the needs of a wide range of stakeholders and community members. But this challenge presents an opportunity because it is this process that allows stakeholders help develop creative solutions to the most troublesome problems. Ultimately, community and stakeholder collaboration can create a sound basis for creative, speedy resolution of development conflicts, which can help make development decisions more timely, cost-effective, and predictable.

Opportunity for Wells

As discussed, Wells has before it an exciting opportunity to redevelop its central area into a vibrant, walkable, pedestrian district that serves its residents and attracts tourists. Communities across America are capitalizing on the land use and transportation approaches described in this report to revitalize their neighborhoods and downtowns. Wells can do the same for its central area. A first step in determining how Wells wants to grow is to recognize the importance of modifying existing approaches to the development process. A “business as usual” approach to development will ultimately lead to the same type of development Wells has gotten up to this point. If it wants to change development outcomes, the town could consider changing the development process. The consultant team suggested three priority strategies that may change the development process and lay the foundation for the pedestrian district.

1. The town could hold a design charrette focused on the Rt.1/109 intersection. This intersection is in the middle of Wells' central area, and the redesign of the intersection will directly affect any future development or redevelopment in this area. Because the redesign of this intersection will

lay the foundation for the future of Wells' central area, a design charrette, with an open public dialogue, could help ensure that the final design can work with future plans residents might want for that area.

2. The town could create a specific area plan for Wells' central area and determine which land development regulations would need to be changed to allow the type of development residents want.
3. The report suggests a number of land use, stormwater, and transportation strategies. Each of these strategies will require some effort to implement. To continue the momentum of the design workshop, the town could engage the public to determine some of the basic elements for the pedestrian district, such as determining boundaries and the number and size of mixed-use buildings and housing. The public could be engaged through regular town meetings or a public workshop.

Explore financing strategies

There is a wide range of financing strategies available to the town and to developers interested in development and redevelopment opportunities in Wells. The town could examine some of these strategies to determine their potential application.

For example, tax-increment financing (TIF) can be a useful tool for redevelopment and community-improvement projects. As federal and state funding for redevelopment has become scarcer, many municipalities have turned to this mechanism to underwrite development initiatives. TIFs allow the community to take advantage of the future tax benefits of real estate improvements in a designated area to pay the cost of making those improvements in the present. Wells could use TIF funding to encourage mixed-use development in the pedestrian district.

Impact fees are another option. Development impact fees are one-time charges applied to offset the additional public-service costs of new development. They are usually applied when a building permit is issued and are dedicated to provision of additional services, such as water and sewer systems, roads, schools, libraries, and parks and recreation facilities, made necessary by the presence of new residents in the area. Impact fees are essentially user fees levied in anticipation of use, expanding the capacity of existing services to handle additional demand. To be fair and transparent, the amount of the fee must be clearly linked to the added service cost, not some arbitrary amount.

Other options that some communities have used to help finance projects like the pedestrian district include community development block grant funds, in lieu of fees, business improvement districts, or state bridge funds. All of these possible financing options would have advantages and disadvantages for the town. To help determine which strategies could work for the town and its development plans, the town could consider asking a local college or university class to help research and analyze possible financing strategies.

Conclusion

Considering and completing the steps outlined here can help Wells and its residents decide where and how they want their town to grow and lay the foundation to attract the growth they want. The town establishes its expectations for development through zoning, ordinances, standards, and guidelines for developers. This policy structure gives developers predictability and helps ensure that the town will get the development its residents want. The clearer the town can be in its expectations of the type of development it wants, the more likely it is to be built.