

**Multi-Modal Corridor Management Plan
For the Lower Kennebec Corridor**

July, 2011

**Prepared by
Kennebec Valley Council of Governments**

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1: The Purpose of Multi-Modal Corridor Management Plans

The multi-modal corridor management plan is an initiative of the Maine DOT applies to designated Corridors of Regional Economic Significance for Transportation. The planning effort is intended to achieve two goals that previous plans have not.

- Joint planning of highway, non-highway, passenger and freight, and transportation enhancement projects over one corridor at one time; and
- Integration of transportation projects with local and regional policies for development and economic growth.

As a corridor management plan, this initiative is focused on an element of transportation – the mobility corridor – in its relationship with the cities and towns that have jurisdiction over the land use as well as private development trends in the corridor. In the case of the “Lower Kennebec” corridor, that means the land area in central Maine between Gardiner and Fairfield, served by I-95 and US Route 201.

The multi-modal plan begins with the premise that the residents of the corridor are in control of their future. They are able to make choices which influence the pattern of growth of the community. The pattern of growth is what dictates transportation needs. Once the community has chosen a pattern for its future growth, as signified in its comprehensive plan, this plan identifies the transportation projects necessary to support that growth.

Communities along the corridor are asked to think and plan regionally. Not only are most transportation systems regional in nature, but municipalities themselves will see more success in their efforts if they are moving in the same direction as their neighbors, and not at cross purposes.

The multi-modal plan will not focus on existing projects, and presupposes the existence of those in the pipeline. It is not a “design plan,” nor does it either support or contradict ongoing DOT planning studies. A community must put its vision in place, through a local comprehensive plan, land use regulations, economic development investments, and other policies, before the DOT can begin to re-assess its project list.

Purpose and Need: Lower Kennebec Corridor

This plan is designed to address the existing and emerging needs within the transportation system extending in a corridor between Gardiner and Fairfield. A partial enumeration of these needs includes:

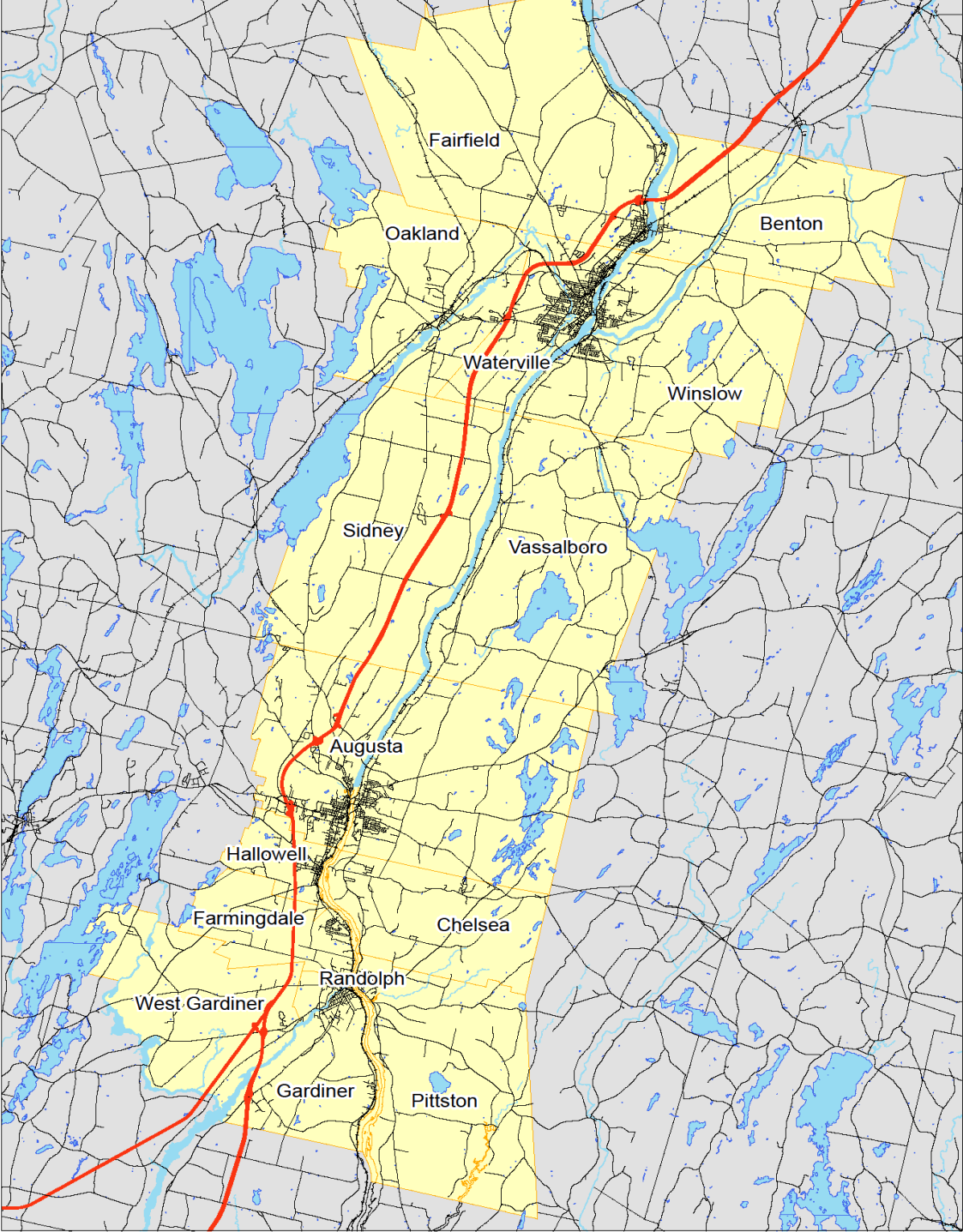
- A dependence on the highway system which impedes diversity and choice among transportation options;
- Identification and analysis of existing impediments to the free and efficient flow of people and freight within the corridor;
- Investments in transportation improvements which will support future growth and development;
- Coordination of development plans with suitable and effective transportation improvements.

The planning process requires the identification of driving forces within the region and future scenarios for growth. Development trends over the next twenty years – whether or not supported by local political decisions – will dictate the location and extent of the need for transportation improvements. Effective local growth management will alter development patterns. In combination with transportation plans, this will result in lowered public and private costs to transport goods and people.

The purpose of this plan is to provide that context. This plan will: inventory the effectiveness of local growth management and development practices, identify focus areas of existing and emerging congestion, integrate several modes into our strategy for addressing focus areas, identify local development strategies, if necessary, to support future transportation investments and reduce the need for unplanned investment. Recommendations in the plan are developed with the invited input from community leaders, and build on strategies and recommendations from prior planning efforts, including local comprehensive plans.

Within the Lower Kennebec Corridor, the backbone of the transportation system is the Maine Turnpike and I-95. The interstate system is free-flowing within this corridor, but many of the focus areas are the road segments immediately adjacent to interchanges. It is recognized that the greatest threat and impediment to development in the corridor is efficient access to the backbone. Other focus areas include downtown and village centers. Densely developed areas in general suffer from overburdened roads and underinvestment in alternate modes of transportation.

Lower Kennebec Corridor



2: Public Participation in the Development of this Plan

Kennebec Valley Council of Governments (KVCOG) designed a plan for public participation to ensure that representatives and stakeholders of communities within the corridor had opportunities to provide opinions and information. The two principal methods of gaining public input were through local public meetings and through local comprehensive planning processes.

Within the corridor, KVCOG recognized a challenge of geography, that northern and southern Kennebec Counties are not accustomed to working jointly on planning projects. Both Augusta and Waterville are regarded as the center of their respective regions. Therefore, the initial stage of public contact consisted of two kickoff meetings – one in Augusta, one in Fairfield (at the home offices of KVCOG). These meetings were held on January 27th and 28th, 2010, respectively. An article published in the local newspapers as well as local posters and personal invitations informed residents of the meetings.

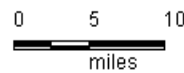
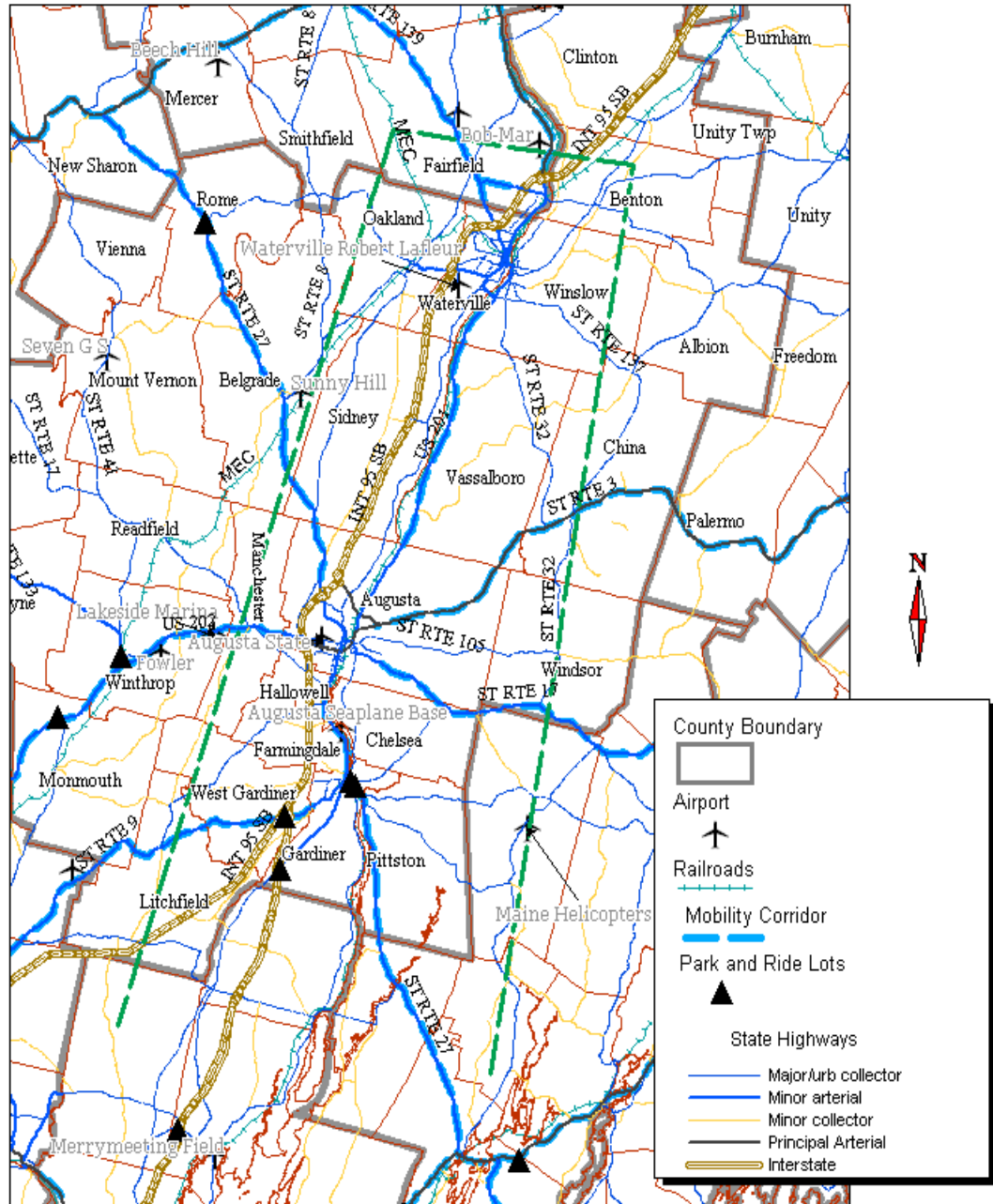
The meetings were attended by roughly a dozen people each, representing both public and private sectors. Attendees were informed of the process and issues involved and asked to reply to a survey of transportation needs.

The kickoff meetings were followed by a series of subregional meetings. Eight meetings were held during March and April of 2010. Meetings were attended by between four and 18 people, primarily from the public sector. After an overview of the project, the meetings consisted of informal discussions of local transportation needs, past history, and possible solutions. Since there are many transportation projects in different stages of planning within the corridor, it was often difficult to separate local perceptions of “problems solved” from outstanding needs, so the discussion was often moved to focus on local geographies rather than specific road segments or intersections. The “focus areas” approach in this plan was adopted as a result.

During the summer and fall of 2010, KVCOG conducted a review of local comprehensive plans for the corridor. From this review, additional suggestions for transportation strategies were gleaned, as well as local vision for growth and development patterns.

As the plan was wrapping up in the early Spring of 2011, KVCOG conducted an additional set of local meetings. KVCOG had distributed preliminary set of proposals town-by-town with a request that towns wishing more input contact the agency. During this time, KVCOG met specifically with planning boards in Waterville, Winslow, Gardiner, and Randolph. A draft of the complete plan was posted on the KVCOG website at this time. The plan was completed in its current form following this second round of meetings.

Lower Kennebec Corridor Transportation Network



3: Lower Kennebec Corridor Data Summary and Analysis

This corridor extends north and south straddling the Kennebec River in Kennebec and southern Somerset Counties. The corridor is perhaps the most heavily-travelled in central Maine, incorporating I-95 and urban street networks within Augusta and Waterville. The corridor is defined as the region where I-95 and US 201 parallel each other, between Fairfield, to the north, and Gardiner, to the south.

As Augusta, Waterville and, to some extent, Gardiner have asserted themselves as economic centers, this corridor begins to take on the appearance of a linear metropolis. Within each town are centers of economic activity and growth. Within most towns are points of congestion and conflict. While significant investments have been made in the road system within this corridor, the slow transformation to an urban metropolis suggests the need for a shift in investment to alternate transportation infrastructure.

Transportation Elements of the Corridor:

The most significant element of the transportation system, from the perspective of both investment and utilization, is the highway system. The backbone of the highway system is I-95. I-95 traverses north-to-south through Fairfield (2 interchanges), Waterville (2), Sidney (1), Augusta (3), Hallowell (0), Farmingdale (0), and West Gardiner (1). At West Gardiner, it splits into I-95 (Maine Turnpike) and I-295, with another Gardiner interchange. I-95 carries the highest individual road traffic counts in the corridor, but with limited access does not interact to a large extent with land use and economic development in the corridor. It does contribute to development pressures at interchanges, which will be discussed later in this section.

US 201 is an arterial highway running the length of the corridor. Overall, it is the most heavily travelled and developed road outside of the interstate. The majority of 15,000+ AADT traffic counts in this region are on Route 201. The most striking characteristic of Route 201 is that it is also the main street for many communities. The downtowns of Fairfield, Waterville, Winslow, Augusta, Hallowell, Farmingdale, and Gardiner are all bisected by Route 201. Only in Vassalboro has this road not experienced urban development. Route 201 carries significant commercial traffic on short hauls. Route 201 only interchanges with the interstate twice – once in Fairfield and once in Gardiner, bookending this corridor.

US 201 flanks the Kennebec and crosses it twice, in Waterville and Augusta. Other highways serve the opposing side of the river. In Benton and Winslow, Route 100 is a collector road with AADT of 7-8,000 serving primarily residential development. Between Waterville and Augusta, Route 104 is a collector road on the west side, with traffic counts as high as 9,000 in the urban areas, dropping to 1,500 in Sidney, where it is a purely rural road. South of Augusta,

Route 9 flanks the river to the east, serving Chelsea and Randolph as a commuter route, with traffic counts in the 9,000 range. At Randolph, Route 9 crosses to the west and Route 27 extends into Pittston and down to Route 1 in Wiscasset. In Randolph, Route 27 is the commercial street, with daily traffic counts up to 17,000, dropping off to 5,000 in Pittston, where it becomes a rural road.

A variety of collector and arterial highways feed into the corridor from west and east. On the east side, highways tend to serve rural suburbs or connect to the coast. Because the commercial centers of Waterville, Augusta, and Gardiner, as well as I-95 are all west of the river, the east side feeder routes invariably converge at river crossings.

East side highways include: Route 139 in Benton (suburban collector, 7,500 AADT); Routes 32 (rural collector, 4,000 AADT) and 137 (rural collector, 4,000) in Winslow; US Route 3 (coastal connector, 10,000 AADT), Route 105 (rural collector, 3,000 AADT), and Route 17 (coastal connector, 10,000 AADT) in Augusta; Route 226 (suburban collector, 6,000 AADT) in Randolph; and Routes 126 (rural collector, 2,500 AADT) and 194 (rural collector, 2,500) in Pittston.

Feeder roads on the west of the corridor tend to play larger roles. That is because the more populated suburbs lie to the west, and because the roads cross the interstate, providing prime locations for interchange development.

Route 104/139 is an arterial road accessing US Route 2 and, by extension, western Maine. In Fairfield, the road carries an AADT up to 11,000, but splits to two interchanges. Route 139 goes toward downtown Fairfield, also carrying east-west traffic to I-95, with an AADT of 7,000. Route 104 continues southeast towards Waterville, carrying north-south traffic to I-95, with an AADT of 8,000.

Route 11/137 connects Oakland with I-95 and Waterville. It is a 4-lane arterial carrying 15,000 AADT. It is also a commercial highway between Oakland and Waterville, hosting the FirstPark business park, as well as several small stores and strip malls, car dealerships, and other businesses.

Route 27 northwest of Augusta serves the Belgrade Lakes suburbs and resort area, as well as much of western Maine. Entering Augusta, Route 27 carries an AADT of only 6,000, but due to extensive commercial development inside Augusta, by the time Route 27 reaches I-95 it is carrying more than 13,000. Route 27 continues into downtown Augusta, carrying daily traffic of 16,000 into a fully developed area.

US Route 202 is a major arterial connecting Augusta with the Lewiston-Auburn metropolitan area. It is the subject of the *Augusta Southwest Multimodal Corridor Plan*. At the I-95 interchange, it carries a traffic count of roughly 14,000 daily on a 4-lane commercial road. East of the interchange, it becomes Augusta's major commercial corridor, carrying an AADT of 15-20,000.

Winthrop Street and Litchfield Road do not interchange with I-95 but join Route 201 in Hallowell. Both serve fast-growing suburbs, with Winthrop Street carrying 5,800 AADT from Manchester and Hallowell, and Litchfield Road carrying 1,700 (splits in Farmingdale with Maple Street carrying up to 1,000).

Route 9/126 is an arterial route carrying AADT up to 6,000 from the southwestern Kennebec suburbs into Gardiner. It interchanges with I-95 at West Gardiner. It is primarily a rural road west of I-95, but continues into Gardiner as a commercial highway.

Bridge crossings of the Kennebec are an important element of this corridor, because they comprise one of the two sets of convergence points within the corridor (interstate interchanges being the other). Table 1 provides an overview of bridges within the corridor.

Table 1: Kennebec River Bridges in the Lower Kennebec Corridor

Bridge Name	Location	Capacity	2008 Traffic (AADT)	10-year Change (percent/year)
Fairfield-Benton (3 spans)	Fairfield	2 lane	12,210	- 1.2
Waterville-Winslow	Waterville	5 lane (3 EB)	17,890	- 0.9
Carter Memorial	Waterville	2 lane	11,160	3.7
Cushnoc	Augusta	2 lane	16,430	3.3
Father Curran	Augusta	3 lane (2 WB)	15,810	- 2.6
Memorial	Augusta	2 lane	25,180	- 2.1
Gardiner-Randolph	Gardiner	4 lane	19,410	- 1.1

Even though the majority of bridges on this table show negative traffic growth over a ten-year period, growing demand prior to that time led to the construction of the two new bridges showing growth (Carter and Cushnoc). In fact, combining the three Waterville area bridges shows an increase of about 300 vehicles per day over the past decade, and the three Augusta bridges' combined increase is about 4,400 vehicles per day. Overall, river crossings within the corridor have increased by about 2,000 vehicle trips per day since 1998.

With development of the two new bridges, there should be no capacity problems over the next two decades. Memorial appears to be the most-burdened, but changes to the rotaries at either end appear to be having some effect on the flow.

Alternative corridor transportation elements include rail service, transit service, and bicycle facilities. Both passenger and general aviation services are available within the corridor (Augusta State Airport and Waterville LaFleur Airport), but do not factor in corridor transportation planning. Sidewalk facilities are common within most of the municipalities, but they do not offer a regional transportation element, so are not inventoried for this plan.

A freight rail line is available immediately adjacent to the Kennebec River. From north Augusta south, the track is owned by the State of Maine. With the exception of downtown Augusta, the track is suitable for use. In practice, there are very few customers along this line and utilization is intermittent to non-existent.

The primary freight route runs from the Lewiston-Auburn area through western Kennebec County to Waterville, and on to Bangor, bypassing Augusta and the southern part of the corridor. This track is owned by Pan Am Railways and has multiple freight trips daily. Spurs from this line depart in Oakland, for the Madison Paper mill, and Fairfield for the SAPPI Skowhegan mill.

The two routes join in Waterville, which hosts a maintenance and switching yard. An intermodal facility had been sited at the Waterville yard, but business tailed off and it was closed in the late 2000's.

Rail passenger service could at some point in the next twenty years be restored through the corridor. At this point, the "Lower Road" (Kennebec River route) seems the likely candidate route, as it would have fewer conflicts with freight service, would serve Augusta, and service will already be provided part way up, to Brunswick, in 2012. However, at the moment there seems to be more political support for the Lewiston-Auburn route and little initiative locally at all. A station site has been identified in Waterville, where the lines merge, but further stations would depend on which route is selected for service.

Intercity bus service is provided by two private carriers along I-95. Concord Coach Lines stops in Augusta at a newly completed station on outer Civic Center Drive, and in Waterville at Colby College. Greyhound intercity service stops at the Augusta airport and at Kennedy Memorial Drive in Waterville.

Local bus service within the corridor is provided by KV Transit. Scheduled service has recently been expanded and rebranded the *Kennebec Explorer*. Service is centered in Augusta and Waterville. The Waterville system includes a loop through Fairfield. The Augusta system includes a route to Gardiner, with stops in Farmingdale and Hallowell. Limited regional service is available between Augusta and Waterville. A long range plan projects further expansion.

The urbanized portions of the corridor already have facilities or projects in place to enhance bicycle travel. A rail trail connecting Augusta to Gardiner has been completed over the past decade, and is proving one of the most popular transportation attractions in the area. At both ends (Augusta and Gardiner), extensions of the trail are proposed or pending funding. A Merrymeeting Trail Initiative proposes to extend the trail through Gardiner southward, into Topsham and Bath. Bicycle connections west of Augusta are being advocated by Winthrop and Manchester.

In the Waterville area, Kennebec Messalonskee Trails, a non-profit entity, is developing a multi-use trail network linking Waterville with Winslow, Benton, Fairfield, and Oakland. Segments of the trail are in place, with others planned or in development.

The East Coast Greenway is an interstate bicycle trail initiative. Greenway planners have identified this corridor as its "River Route" through Maine. The objective of this project is to create off-road trails, but most of the mileage currently identified is on existing roads. The alignment as now shown enters Hallowell from the southwest, joins with the rail trail to Augusta,

crosses Father Curran Bridge and proceeds on Route 201 to Winslow at Route 100A, then follows 100A to the Sebecook bridge at Benton. As missing links of the Waterville trail system get developed, the River Route will probably come through Winslow alongside the river until it gets to Route 139 before turning east.

A key to diversifying the transportation system and opening new opportunities is developing the linkage between modes. People are much more likely to shift to a more efficient mode if facilities are available to do so, and place less overall burden on the system. For example, KV Transit busses are equipped to carry bicycles. The Kennebec River Rail Trail was originally promoted as a way to alleviate congestion through Hallowell and Farmingdale, but has proven so popular that people coming to the trail have overwhelmed parking capacity, and created their own congestion on the roadway.

Previous regional plans have recommended an intermodal transportation facility near the Augusta I-95, Route 3 interchange (Exit 113). This is a clear candidate for a park-and-ride facility, and if the new hospital is built as planned, could contain a KV Transit bus stop as well. Or, if shifted to the east end of Cushnoc Bridge, it could serve a future passenger rail station.

Other sites have also been identified for potential expansion of a park-and-ride system. Park-and-ride facilities already exist in Gardiner and Randolph. North of Augusta, the corridor is woefully short of park-and-ride facilities. Planning is underway for a new facility on Kennedy Memorial Drive, adjacent to I-95 Exit 127.

As the potential for bicycle travel is exploited, we also have to look at parking at trailheads and storage facilities at destination points. Neither of these considerations are receiving much attention.

Growth and Development Trends:

Throughout most of Maine's recorded history, the focus of land use has been the river. Within this corridor, the three primary service centers lie at the confluence of the Kennebec and some tributary. These rivers were the original transportation facilities, and then tapped for power generators and sewer facilities for growing industrial cities. The Kennebec River created this corridor. While the older commercial and industrial development adjoins the river, the principal source of commerce and development now is the interstate.

Growth within the corridor has followed the pattern of the region and state as a whole. Older industrial towns have lost population (Augusta, Gardiner, Waterville) or just held their own (Hallowell, Winslow, Fairfield), while suburbs continue to grow substantially. Table 2 illustrates historical and projected population levels.

A continuing decline in household sizes also means that the number of households is rising in proportion to the overall population. This has significance for transportation planning because vehicle trips are more directly related to households than gross population. For example, towns in Kennebec County average 1.25 to 1.34 workers per household, regardless of the size of the households.

Table 2: Growth Factors in the Lower Kennebec Corridor

	Population 1990	Population 2010	20-year Change	Population 2030	Households 2010	Households 2030	Commuting Balance 2000	Commuting Balance 2030
Augusta	21,325	19,130	-10%	19,000	8,802	9,202	16,811	18,000
Benton	2,312	2,732	18%	3,100	1,104	1,319	-664	-200
Chelsea	2,497	2,721	9%	3,000	1,046	1,214	-767	-1,000
Farmingdale	2,918	2,956	1%	3,000	1,259	1,345	-706	-400
Gardiner	6,746	5,800	-14%	5,500	2,487	2,482	-802	-600
Hallowell	2,534	2,381	-6%	2,400	1,193	1,266	-104	-100
Oakland	5,595	6,280	12%	6,800	2,543	2,898	-1,165	-700
Pittston	2,444	2,666	9%	2,900	1,103	1,263	-959	-800
Randolph	1,949	1,772	-9%	1,700	813	821	-515	-400
Sidney	2,593	4,208	62%	5,500	1,607	2,211	-1,482	-2,400
Vassalboro	3,679	4,340	18%	5,000	1,788	2,168	-1,323	-1,800
Waterville	17,173	15,722	-8%	16,000	6,370	6,824	5,459	6,000
Winslow	7,997	7,794	-3%	7,800	3,328	3,506	-1,333	-1,500
Fairfield	<u>6,718</u>	<u>6,735</u>	<u>0%</u>	<u>7,000</u>	<u>2,793</u>	<u>3,056</u>	<u>-63</u>	<u>- 250</u>
	86,480	85,237		88,700	36,236	39,575	12,387	13,850

Source: 1990, 2010 Census, 2030 KVCOG Projections

The separation between residential communities and employment/commercial centers accelerates the growth in travel demand. Table 2 illustrates that the largest service centers of Augusta and Waterville have a net influx of workers, while fast growing suburbs show a substantial outflow. A few towns with commercial infrastructure, such as Gardiner and Oakland, may be reducing the imbalance, but for the most part, this trend is growing.

Within the corridor, there are three significant issues in the development sphere that relate to transportation planning:

- Increasing travel demand brought on by residential growth in suburban towns, and commercial growth in the service centers.
- Redevelopment of downtown and industrial areas in Augusta, Gardiner, and Waterville.
- Expansion of development in areas surrounding interstate interchanges.

The growth in travel demand is a large-scale issue. It has to do with local planning for land use and economic development, and statewide planning for infrastructure. It also tends to have a radial profile, in contrast to the linear corridor addressed in this plan. Conversely, redevelopment of downtowns tends to be a local issue. Discussions focus on access to property, parking, and sidewalks. The third issue – expansion of development near interstate interchanges – is seen as critical on the corridor level, because these are the chokepoints to regional transportation and these are competing with traditional downtowns for commerce and employment.

In order from north to south, the following is an analysis of interchange development within the corridor. Traffic levels cited (AADT) are on the road segment serving the interchange, not the ramps themselves.

- Exit 133: (Fairfield, Route 201) A large volume of truck and long-distance traffic uses this exit, but it has not yet been “discovered” commercially. This may be because some of the prime real estate is owned by a cement company. The exit is at the northern edge of Fairfield, near where a small hotel is planned. An MDOT office and maintenance complex is located just north of the exit; this may be the locale for a new park-and-ride facility. Approximately 600 Skowhegan residents commute to work south of this exit.

Counting Point	1993 AADT	2008 AADT	Annual Change
201 north of I-95	7,100	10,580	+ 2.7
201 south of I-95	6,380	6,290	--

- Exit 132: (Fairfield, Route 139) This exit was an afterthought in the original interstate design, but is emerging as a rapidly-developing commercial area. Within the past ten years, the area within a few hundred yards of the interchange has seen significant expansion of a truck stop, expansion (enrollment and buildings) of Kennebec Valley Community College, and establishment of a business park. Planned for the coming decade are continued expansion of the college and development of two additional commercial subdivisions. The bottleneck on Route 139 is the interstate overpass, a narrow two-lane bridge. KV Transit expansion plans include a stop at the college. No park-and-ride facilities exist.

1996 AADT	7,800
2008 AADT	10,360
Annual Change	2.4 %

- Exit 130: (Waterville, Route 104) This exit provides access to Upper Main Street in Waterville, perhaps the fastest-growing commercial area in northern Kennebec. Upper main Street is two-lane north of the interchange but widens to four lanes to the south. Retail commercial development within the past decade triggered the need for signalization of the interchange ramps. Continued expansion and redevelopment of retail stores south of the interchange will put added traffic pressure on Upper Main Street, where existing traffic management devices are insufficient.

1993 AADT*	15,420
2008 AADT*	18,130
Annual Change	1.1 %

*Count is on Main Street, not directly adjoining interchange

- Exit 127: (Waterville, Route 11/137) Kennedy Memorial Drive (Route 11/137) was developed as a commercial strip several decades ago, but has not experienced significant business growth recently. KMD is a four-lane roadway, with signals at all ramps and in the immediate vicinity of the interchange. Major development in the past decade includes expansions to Inland Hospital medical facilities (approximately 0.8 miles east) and partial development of FirstPark Business Park immediately to the west. Future development could include building in the Airport Road

1996 AADT	20,300
2008 AADT	21,450
Annual Change	0.5 %

Industrial park ½ mile east, and redevelopment of several small properties between the interchange and Oakland. A park-and-ride lot is planned near this interchange.

- Exit 120: (Sidney, Lyons Road) Because it is a fast-growing suburb, Sidney’s exit has experienced the most rapid growth rate of any in the corridor; however, it still carries the lowest traffic load of any exit in the corridor, by a wide margin. The immediate vicinity of the interchange has drawn some development from transportation-related companies, but the interchange is not expected to have its capacity threatened in the foreseeable future.

1996 AADT	940
2008 AADT	1,650
Annual Change	4.8 %

- Exit 113: (Augusta, Route 3) This interchange was completed only five years ago, so has not had a chance to establish a good record of growth, but evidence is that it has become a very popular route for travelers needing to get through Augusta to the east side of the river. Route 3 is a two-lane, limited access road leading to the Cushnoc Bridge. Currently, the interchange only provides access east of the highway, but plans are being developed for connections to the west. A continuation of Route 3 west to Route 27 would provide immediate access to a planned hospital expansion and alleviate existing and expected congestion at Exit 112. There is no park-and-ride at this interchange, but there is plenty of space available, and the location would be excellent for an intermodal facility. Park-and-ride and KV Transit service should be incorporated into the interchange expansion.

2005 AADT	12,760
2008 AADT	13,590
Annual Change	2.1 %

- Exit 112: (Augusta, Route 27) Civic Center Drive (Route 27) is the most rapidly-developing area in Augusta. Recent and continuing development includes a regional retail complex and multiple subdivisions with government and commercial offices and service centers. Significant improvements to Civic Center Drive east of the interchange have been triggered by the shopping complex, but the interchange itself is close to capacity and little expansion work has been done to the west. A new link between Exit 113 and Old Belgrade Road would shift traffic loads and improve some turning movements, particularly left turn onto the interstate from Route 27 eastbound. A park-and-ride with 20 spaces has been designated in the Civic Center parking lot (city-owned).

1996 AADT	14,630
2008 AADT	20,250
Annual Change	3.0 %

- Exit 109: (Augusta, Route 202) The Western Avenue exit carries the highest traffic loads of any exit in the corridor, although it is the only one showing declining counts. This is probably the effect of the new exit 113. Western Avenue is a median-divided, four-lane road, and continues to be a significant commercial artery as well as a major commuter route from the western suburbs. Development in the past ten years includes construction of a new retail shopping complex and redevelopment of another. No significant new development is in the works at this time, but the potential remains for growth. There is no park-and-ride lot at this interchange.

1993 AADT	31,220
2008 AADT	27,250
Annual Change	(- 0.9 %)

- Exit 103 (Maine Turnpike)/I-295 Exit 51 (Gardiner, Route 9/126): Route 9/126 (Lewiston Road) is accessible from I-295 at exit 51. Except for the new service plaza just west of the interchange, there is not much commercial development near the interchange. Most of the traffic – and the growth rate – is accounted for by commuters from suburban residential growth in West Gardiner and Litchfield. The service plaza includes space for up to 54 vehicles for park-and-ride.

1993 AADT	4,570
2008 AADT	6,330
Annual Change	2.2 %

- Exit 49 (Gardiner, Route 201): The Route 201 exit in Gardiner is well south of Gardiner’s downtown, so is not connected with most of the commercial activity. However, the city’s Libby Hill Industrial Park, just east of the interchange, has been filled and expanded within the past ten years. Although there is potential for additional commercial or residential development, there should not be any issues with capacity at this point. A city-owned park-and-ride accommodates 20 vehicles.

1996 AADT	6,500
2008 AADT	7,110
Annual Change	0.8 %

Political and Regulatory Elements:

The Lower Kennebec Corridor consists of fourteen individual municipalities: thirteen in Kennebec County, one in Somerset. Although cooperating at an increasing rate on economic development and sharing of public services, individual municipalities still maintain their own land use regulatory authority. This contributes to a patchwork of development regulations.

Since commercial development is greatest in Augusta, Waterville, and to a lesser extent Gardiner, most of the subsidized development energy within the corridor is focused there. In the Waterville area, industrial/business parks are located in Waterville, Winslow, Oakland, and Fairfield. Augusta hosts several business parks or subdivisions. Gardiner has a business park. Waterville and Gardiner have active Main Street programs, and they, along with Fairfield, Augusta, and Hallowell, have received downtown revitalization grants and created downtown plans over the past few years.

This investment in commercial infrastructure promotes a general relocation of commerce and employment from smaller towns into the cities. Although employment throughout the corridor has stayed stable for 20 years, jobs in Augusta and Waterville have grown. In 2000, almost exactly 2/3 of people employed in Kennebec County worked in Augusta or Waterville. The net result of this trend is that more residents in the region are travelling in to urban areas to work or shop, and more small towns are coping with empty storefronts and industrial buildings.

It could be argued that residential development gains a counterbalancing subsidy through construction and maintenance of the transportation system. A widespread and well-maintained road system throughout the corridor allows anyone living anywhere to access job opportunities

and services in Augusta, Waterville or other urban centers. If not for the cost of owning and operating a car, there would be no economic incentive for people's locational choices.

To some extent, there is regulatory incentive for residential development outside of urban centers. Augusta, Waterville, and Gardiner have long-established land use regulations. The intent of land use regulation has always been to limit the negative impact of commercial and industrial development on the town's residents, but this does not necessarily make residential development more attractive. Land and taxes tend to be more expensive, and local building codes and utility hookup fees raise the cost of housing.

Fairfield, Winslow, and Hallowell also have zoning ordinances, although these are more permissive with regard to new housing and until implementation of the statewide building code, construction cost have been lower.

At the other extreme, suburban towns like Sidney, Vassalboro, Oakland, and Chelsea do not regulate development beyond the state mandates and in some cases site review. They are experiencing rapid residential growth. However, the lack of regulation is less often cited as the reason than the low cost of land and rate of taxation (due to the abundance of low-cost land). Sidney and Vassalboro both have a locational advantage as well, being within commuting distance of two service centers.

The role of zoning has been traditionally to separate commercial development as a means of limiting its impact on residents, and is not likely to be an effective tool in limiting housing growth in small towns with little commerce. Growth is not yet at a rate or level that more effective tools, such as moratoria, growth caps, or open space zoning, are viewed as needed.

All of the municipalities within the corridor have engaged in the comprehensive planning process, although not all within the last decade, making some rather obsolete. In some towns, the comprehensive plan was viewed as a state mandate, so completed without much interest or intent to implement. Table 3 on the next page illustrates the status of land use planning and regulation in the communities within the corridor.

Ideally, a comprehensive plan should identify areas where the town can support growth with suitable infrastructure (including transportation), and in relation with neighboring communities and the region as a whole. The map indicates growth areas identified in local plans. Not all of these have been supported through local regulatory or investment activity. For the most part, growth areas reflect areas of existing development. Towns are required to consider the growth patterns in neighboring communities, but no attempt has been made at regional land use planning.

A requirement to implement a building code statewide is expected to take effect in 2012. All the municipalities along the corridor with the exception of Randolph will be required to enforce it. This may provide some disincentive to develop in rural areas, as it removes the "construction cost penalty" in towns currently enforcing a building code.

Table 3: Planning and Zoning, by Municipality (Listed north to south)

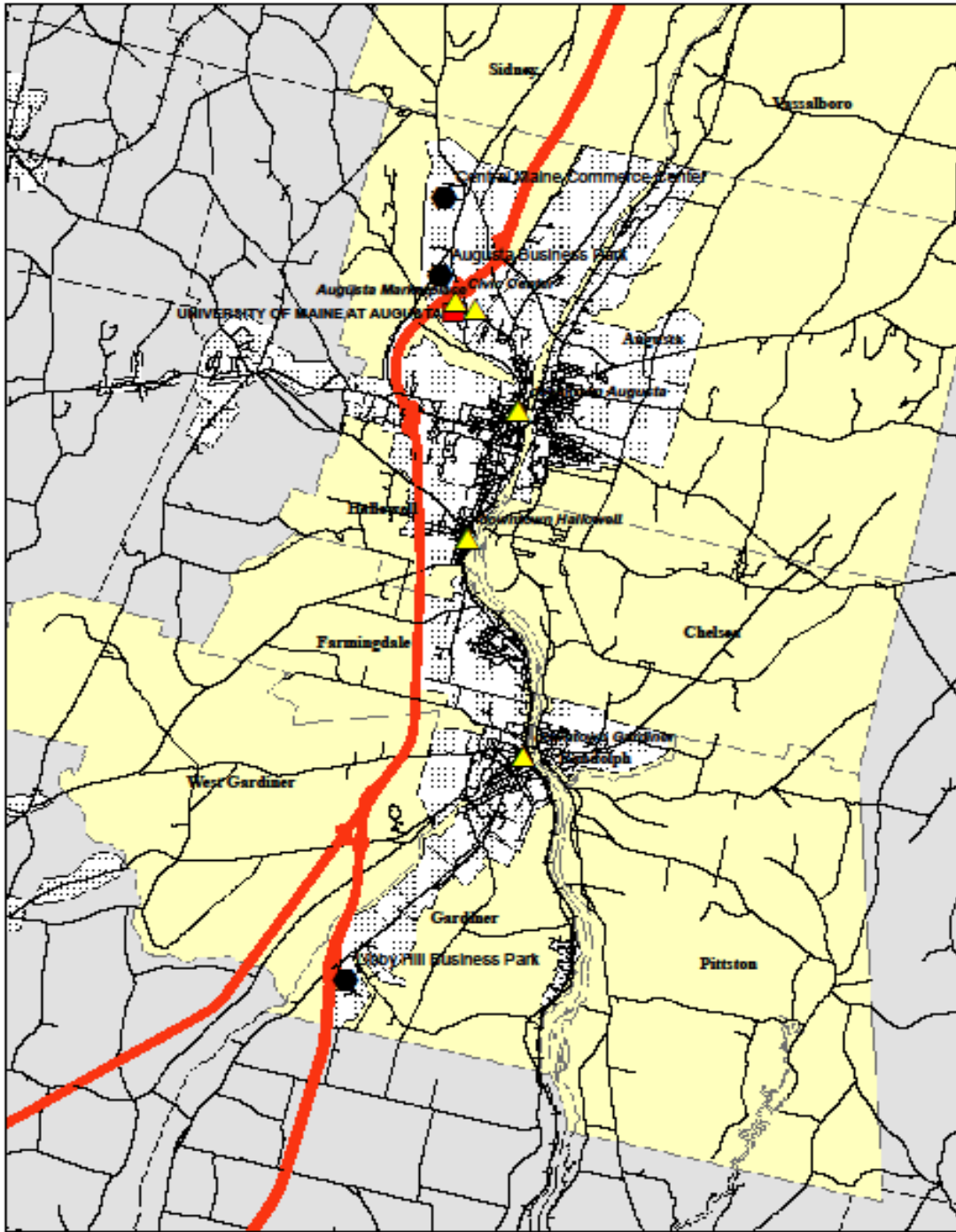
Municipality	Comprehensive Planning			Land Use Regulation
	Date	Adopted	Consistent	
Fairfield	1996*	Yes	Yes	Zoning
Benton	2008	Yes	No	Zoning
Waterville	1997*	Yes	Yes	Zoning, Building Code
Winslow	2009	Yes	Yes	Zoning
Oakland	1991	Yes	Yes	Subdivision and Site Review
Sidney	2003	Yes	No	Subdivision Review
Vassalboro	1992	Yes	No	Subdivision and Site Review
Augusta	2007	Yes	Yes	Zoning, Building Code
Hallowell	2010	Yes	Yes	Zoning, Building Code
Chelsea	2003	Yes	No	Subdivision Review
Farmingdale	2006	Yes	Yes	Subdivision Review
Gardiner	1995	Yes	Yes	Zoning
Randolph	1997*	Yes	Yes	Subdivision and Site Review
Pittston	2005	Yes	No	Subdivision Review

* Update in progress

Land use regulations within the service centers of Augusta, Waterville, and Gardiner, and the proximate communities of Fairfield, Winslow, Hallowell, and Randolph, create a measure of predictability regarding the density and location of both commercial and residential development. Although congested in many places, the transportation system is already well-established. The priority, therefore, is to look for alternatives that will help to move the traffic load more efficiently.

By contrast, most of the remaining communities continue to rely on private decisions to dictate their development trends, and available undeveloped land to buffer the impacts. In many cases, the rate of growth is substantial, but overall activity is low enough that existing, two-lane (for the most part) highways provide sufficient capacity. There are notable exceptions, such as Route 201 in Farmingdale, Route 9 in Chelsea, and Route 139 in Benton. And some of the existing collector roads – particularly east of the river – have yet to be upgraded to an engineering standard. This does ignore the looming traffic problems once these suburbs begin to fill up. Without local regulation to focus growth, though, future transportation investment would have to be too widespread to be effective. In other words, we would not be able to build our way out of it.

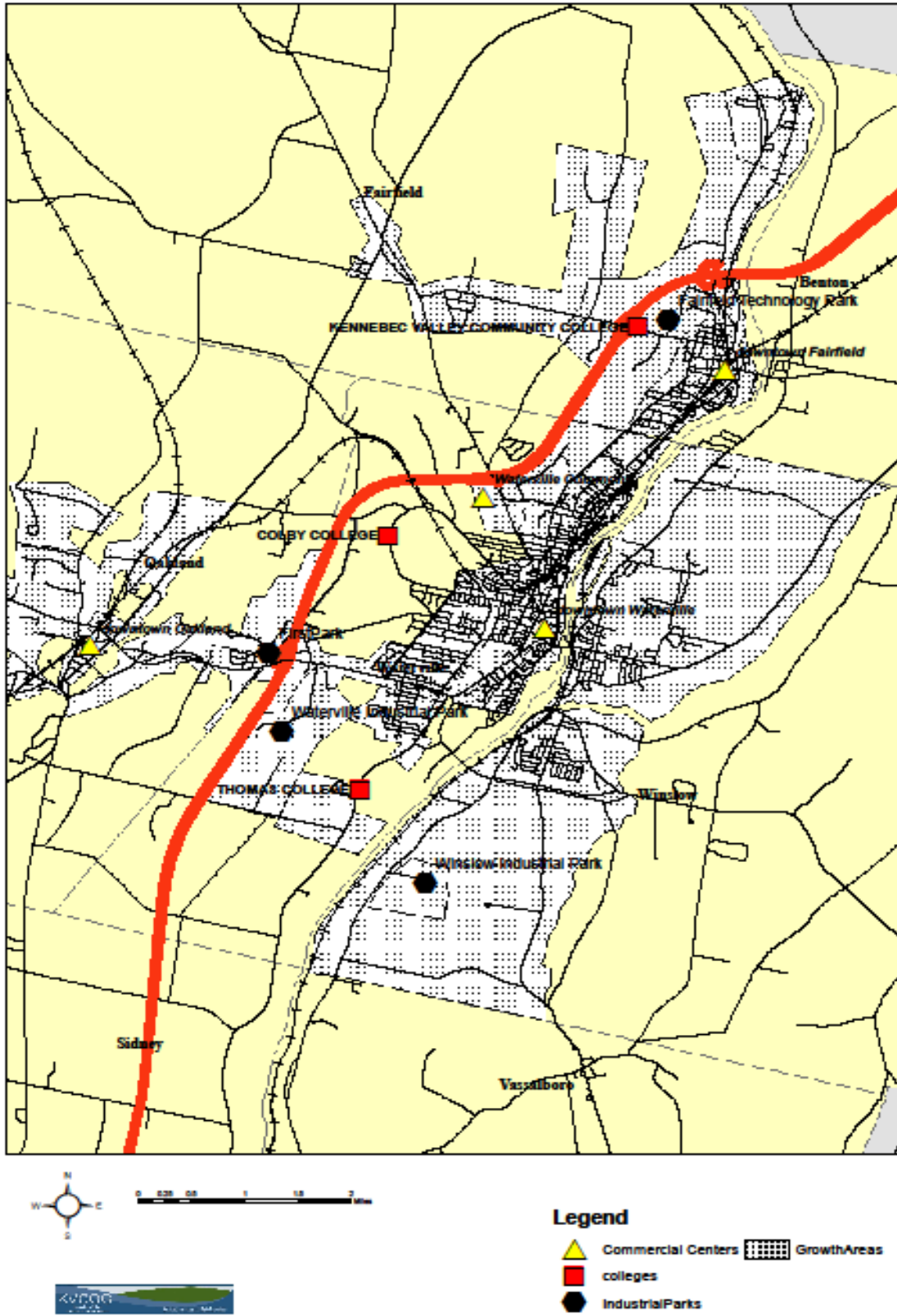
Lower Kennebec Corridor (southern portion) Development Centers



Legend

- Commercial Centers
- colleges
- Industrial Parks
- Growth Areas

Lower Kennebec Corridor (northern portion) Development Centers



4: Driving Forces and Scenarios

Driving Forces:

Driving Forces are the current trends which influence the direction of future events. The interaction of today’s driving forces, applied over time, results in a future scenario. The role of the plan is to find ways to enhance, mitigate, or respond to driving forces in such a way as to move towards the desired scenario with the fewest impacts.

The table below lays out the primary driving forces observed in the Lower Kennebec Corridor, together with their probable impacts on corridor futures.

Table 4: Lower Kennebec Driving Forces

Driving Force	Degree of Certainty	Potential outcomes	Impact on Transportation
<i>Demographic and Social:</i>			
Aging population	High	Urban/Retirement housing, expansion of health and service sector, reduced driving demand	Need for public transit
Population shift to suburbs	Mid	Increased commuting pressure, sprawl, decline in property values	Commuter routes approach capacity
General population growth	Mid	General increase in traffic volumes, rise in property values, increased need for jobs and services	Overall expansion of network
Decreased household size	Mid	Increased number of origin points, shift in housing demand to smaller units	Additional trips per unit of population
<i>Economic:</i>			
Workforce shift to professional/managerial	Mid	Increase in telecommuting, increase in distance driving, increase in AM/PM rush	Congestion points, need for ridesharing
Redevelopment of urban downtowns	Mid	Increased density of development, shift to urban housing	Need for sidewalks, transit
Increase in energy costs	High	Reduced driving, land use shift to urban areas	Need for public transit, alternatives
Commercial growth at interstate interchanges	Mid	Congestion on arterials, Increased development and land prices on frontage, increased reliance on autos	Need for access management, capacity issues
Increase in freight hauling	Low	Local distribution centers, increase in truck traffic, access to interstates	Weight limits on secondary roads, bridges;
<i>Infrastructure:</i>			
Availability of public water and sewer	High	Tendency to cluster on highway, encourages commercial growth	Congestion, access management

Broadband availability	Mid	Telecommuting, call centers	Reduced congestion
New interstate interchanges	Low	Residential growth in suburban towns, increase in freight traffic on secondary roads	Secondary road congestion
Availability of passenger rail infrastructure	Low	Shift of passenger traffic to rail	Need for track, facility, and access improvements
Establishment of inter-city bicycle network	Low	Reduced congestion, increased tourism incentive, health improvements	Need for support structure
General increase in interstate traffic	High	Added growth at interchanges, pressure for additional interchanges	

Future Scenarios:

Scenarios are potential future outcomes that are the result of a blend of driving forces, modified by political actions. While a few of the driving forces are unquestionable and outside the influence of local action, many more are speculative, responsive to economic or political choices. A scenario speculates on the magnitude and influence of certain driving forces.

While scenarios appear to offer black-and-white choices, their purpose is to illustrate how development trends shift the demand for transportation and other infrastructure. Local choices make tradeoffs for spending on transportation elements. If we can forecast local choices, we can focus spending decisions on the transportation elements that will support those choices.

In the Lower Kennebec Corridor, there is a fundamental dynamic at work that presents only two significant scenarios: the population and economic dislocation between urban and rural areas can continue, or it will be reversed. These are the two scenarios presented below.

Scenario 1: Continued Suburbanization (Status Quo)

Overview: This scenario extrapolates trends over the past thirty years regarding the population growth of suburban areas linked to population loss in service centers, together with concentration of economic growth in urban areas at the expense of rural ones. As illustrated in Table 2, population in Augusta, Waterville, and Gardiner has dropped by about 5,100 since 1990, while the “inner suburbs” of Farmingdale, Hallowell, Randolph, Fairfield, and Winslow are just about breaking even. The overall population of the corridor has dropped slightly, leaving a net gain in the remaining six communities of about 4,000 residents. Because of declining household size and the loss of housing units in the cities, more than 2,500 additional homes have been built in these six towns in the past decade alone.

Between 1990 and 2000, Augusta gained 1,500 jobs. It is probable that this trend is accelerating. Waterville and Gardiner are also gaining jobs. As of 2000, only 11,000 of the 47,000 jobs in Kennebec County were located outside of Augusta or Waterville.

A continuation of this trend will result in a dramatic increase in commuter-based traffic. The slight population increase projected to 2030 will be supported by an increase of over 3,000 housing units. Nearly all of these will be located in suburban communities. Households in

Kennebec County average 1.3 jobs per household, projecting to a gain of 4,000 jobs. Based only on current percentages, it is likely that more than 3,000 of these will be located in Augusta or Waterville.

Driving Forces:

Supporting: low land and construction costs in suburban towns, lack of land use regulation, easy access to arterial roads.

Opposing: Aging population, reduced household size, increased energy costs.

Actions which will Promote this Scenario:

- Transportation: Within the scope of this plan, emphasis would be on upgrades to existing collector roads, the primary access to suburban towns along the corridor. Collectors such as Route 23 (Sidney, Oakland, Fairfield), Route 100 (Benton, Winslow), Route 32 (Winslow, Vassalboro), Route 17 (Augusta, Chelsea), Route 226 (Chelsea, Randolph), and Litchfield Road (Hallowell, Farmingdale) are examples of “unbuilt” roads serving extensive and growing suburban areas. While we are not likely to reach a level-of-service capacity on these roads within the next 20 years, increased usage will lead to reduced mobility, accelerated deterioration, and intersection hazards.
- Transportation: Over the long term, interest will build for alternative travel modes. However, the low density of development will preclude efficient provision of transit, sidewalks, or bike trails. Expansion of park-and-ride lots and ride-sharing programs would be required.
- Land Use: This scenario is driven by current land use policies as well as market factors. No change in regulatory standards is necessary to implement it.

Actions which will Accommodate (Respond to) this Scenario:

- Transportation: Continued emphasis on investment in commuter routes: capacity expansion, increased signalization
- Transportation: Geographic expansion of transit service.
- Economic: Decentralization of private and public services, such as branch banks, convenience stores, medical services.

Scenario 2: Reversal of Suburbanization Trend:

Overview: This scenario postulates the reversal of historic population trends. Under this scenario, suburban communities would stabilize in population, while service centers would take the gain forecast for the region. Job development would also reverse, with more employment

seen in small towns and minor commercial centers, as retail and service establishments react to the more spread-out population base.

This scenario can only be triggered by assertive actions by several communities to respond to anticipated desires of existing and new residents. Urban areas can be made more appealing, but only through investment, and high taxes are one of the factors driving people to the suburbs. Urban areas have reserve infrastructure capacity, ranging from underutilized water and sewer systems to vacant industrial and commercial buildings. Implementing this scenario would require realizing the value of that reserve capacity to lower the cost of an urban shift.

The commuter transportation network is one class of infrastructure that does not have reserve capacity. Transportation actions to support this scenario would focus on intra-city capacity, primarily public transit, bicycle, and pedestrian infrastructure.

There is some small evidence that this scenario is in play. The cities of Augusta and Waterville, both seeing some reinvestment in some older buildings, have experienced population gains over the past decade for the first time in over 50 years. Waterville and Gardiner have active Main Street revitalization programs and bicycle/pedestrian expansions planned.

Driving Forces:

Supporting: Increasing energy costs, aging and shrinking households, downtown revitalization efforts, public infrastructure availability.

Opposing: low land and development costs, lower property taxes, easy commuter access.

Actions which will Promote this Scenario:

- Transportation: Emphasis on intra-city transportation alternatives: public transit, bicycle facilities, sidewalks.
- Transportation: Restoration of passenger rail service along corridor.
- Economic: urban/downtown revitalization investment
- Economic: Investment in adaptive reuse of urban buildings.

Actions which will Accommodate (Respond to) this Scenario:

- Transportation: Congestion mitigation in downtown “Main Street” areas: Augusta, Water Street; Waterville, Main Street; Gardiner Main Street; Winslow, Bay Street; Hallowell, Water Street.
- Land Use: Regulations to accommodate higher densities of development in urban zones.

5: Town-level Planning Strategies and Recommendations

Context for Planning Strategies:

Prior sections of this plan have described a set of challenges for future development, chief among them the provision of a transportation system that will continue to move people and goods efficiently. Some of these challenges are evident now; some will become so as development proceeds, or as an alternative development scenario unfolds.

This section sets forth a series of strategies to meet these challenges. Because development and the transportation system are so closely linked and interdependent, the strategies necessarily include both improvements to transportation infrastructure or management systems, and support for or changes to local development policies. As expressed in the *purpose and need* for this plan, the objective is to target infrastructure development in a manner that will best support local growth policies, so local growth policies must be clear and effective before transportation improvements can be made.

Although this plan yields recommendations that are “unconstrained,” that is, not designed to fit within financial considerations, it is clear that financial realities are part of the equation. It has been demonstrated that building a transportation system to support the current pattern of development (“Scenario 1”) is more expensive than building one to support a more compact pattern of development (“Scenario 2”). Therefore, infrastructure projects will have a higher probability of being funded in towns and regions that demonstrate growth policies that support Scenario 2.

The approach taken by this plan is to look at existing and developing threats to efficient movement along the corridor, i.e. bottlenecks and congestion points. These are described as “Focus Areas” in this section. Eliminating the bottleneck is the most cost-effective, indeed the only, means of increasing system efficiency. However, we cannot limit our perspective to specific areas. The regional approach to planning dictates that we look at system improvements that may lie outside of focus areas, or not directly impact them. Examples of this may be a citywide bicycle trail network, or a system of park-and-ride lots. Regional or corridor-wide recommendations are listed by town but also collected in a separate section at the end of this chapter.

Town-by-Town Focus Areas and Planning Strategies (north to south):

Fairfield:

Despite seeing almost negligible population growth (a gain of only 15 residents since 1990), Fairfield has experienced a substantial gain in new housing (157 new homes in the 2000's) and some commercial development. Fairfield has no major employers or commercial centers, but several commercial subdivisions plus a community college clustered around I-95 exit 132.

Fairfield's comprehensive plan dates from 1996, but does contain clear policies directing growth to areas with suitable infrastructure capacity, including roads. These policies have been implemented in its zoning ordinance. The plan contained several implementation strategies, which have been implemented with the exception of one to relieve congestion at the Main Street (Route 202)/Western Ave. (Route 139) intersection. The plan is currently in the early stages of updating.

Focus Area: I-95 Exit 132/Maine Route 139.

Route 139 at this point is a two-lane minor arterial, carrying an AADT of 10,360 (2008). The 12-year average growth rate for AADT is 2.4 % per year. Posted speed limit is 35 MPH. There are no signal controls within the segment.

The segment of concern is approximately one mile long, extending either side of the interchange. This is a segment with several traffic generators and potential for several more. Current significant generators include Lawrence High School (LHS), Kennebec Valley Community College (KVCC), Irving/Circle K truck stop, youth recreational field complex, Fairfield Public Works garage, one built-out business park with a medical building, and two small strip malls. Potential generators include Fairfield Technology Park, Evergreen Business Park, and an undeveloped commercial tract. The land is zoned Commercial or Industrial and is served by public water and sewer systems.

Problems noted with the current operation include left-turn movements throughout the segment, as well as access from the truck stop and Lawrence High School. The overpass at I-95 is constricted to two lanes and has been noted as having insufficient capacity in past studies. On a daily basis, turn movements onto opposing on-ramps back up and block each other. Left-turning traffic into KVCC during the AM rush often backs up. The intersection of School Street (LHS) and Route 139 has been a High Crash Location in the past, but recent development of a corner lot has improved sight distances. A flashing orange/red signal was placed at the intersection of Route 139 and Ridge Road in 2008. Heavy truck traffic turning into and out of the truck stop often halts through traffic.

Overall traffic volumes are expected to continue to grow. Enrollments at KVCC are growing. There is good potential for continued commercial growth. Potential for growth from commuter/residential traffic is low.

Strategies -- State:

- Increase the width of the segment between Hammond Tractor and LHS to three lanes. East of the overpass, the third lane should be a center-left-turn lane. West of the overpass, the third lane should be a slip lane to enter the truck stop.
- Increase the width of the I95 overpass to three lanes – long term consistent with bridge life. Center lane should be left turn only.
- Install sidewalk to extend from existing south-side sidewalk at the eastern end of the segment as far as KVCC. Provide safe crosswalk access at KVCC.

Strategies – Town:

- Maintain commercial and industrial zoning, but identify and limit locations for future access points onto Route 139.
- Establish long-term goal to work with City of Waterville to connect Industrial Road with Industrial Street in Waterville.

Regional Strategy:

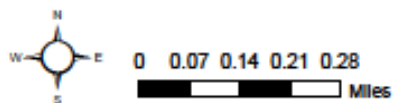
- Establish/maintain Kennebec Explorer service to KVCC.

General Strategies:

- Maine DOT: Establish park-and-ride facility near Exit 133. This interchange receives a large volume of commuters coming south from Skowhegan. A park-and-ride could be implemented at the existing DOT maintenance/training facility.
- Maine DOT: Route 201 at Route 139, downtown. Establish dedicated left turn lane for 201-to-139 turning movements, extending beyond the commercial entrance to the south. Alternative is to install signalization. *This is the highest priority for the town.*
- Regional: Expand Kennebec-Messalonskee Trail network.

Lower Kennebec Corridor Site Specific Project Recommendations

Fairfield



Legend

- Site Specific Projects
- ▲ Commercial Centers
- colleges
- Industrial Parks

Benton:

Benton is a rural-suburbanizing town experiencing substantial growth (18 percent over 20 years). Although there is some subdivision development, the majority of growth is distributed over single lots. While Benton is currently a bedroom community, it is expected that its location and availability of land will lead to increasing commercial development. The only significant traffic generator currently is the elementary school off of Route 139.

Benton revised its comprehensive plan in 2008, but was never published or submitted to SPO for review. The original plan (1991) established a growth area along Route 139 between the Kennebec and Sebasticook Rivers, but the Land Use Ordinance enacted in 1996 designated only three village areas as growth zones. Transportation recommendations in the plan included support for public transit services and bicycle trails and paths.

Focus Area: Route 139, Kennebec River Bridge to Sebasticook River Bridge

Including the segment connecting to Benton's Sebasticook Bridge, this segment is approximately two miles. Route 139 is a two-lane major collector, carrying AADT of 8,660 (2006) east of Benton Ave. Traffic growth rate since 1993 is roughly 0.75 % per year, primarily attributable to suburban residential growth to the east.

The only significant traffic generator on Route 139 is Benton Elementary School. Almost all traffic is through trips. The land along this segment is currently a mix of residences and small businesses, with a lot of potential for new development.

The roadway was extensively reconstructed in 2010, providing an adequate road surface and shoulders. The East Coast Greenway bicycle trail originally followed this route, but was moved due to high traffic and poor shoulder conditions. The Waterville Rotary Trail (Kennebec-Messalonskee system) has a trailhead at the western end of this segment.

The principal conflict areas are the two intersections at the eastern end, where Route 139 joins Route 100 and diverges to the Sebasticook Bridge within a distance of about 200 yards. During the AM rush and at other times of the day, traffic backs up on Route 139 westbound at 100 (over the bridge). At the PM rush, traffic backs up eastbound on Route 139 at the Route 100 junction. Neither node is a high crash location.

Strategies – State:

- Conduct a traffic flow study at the Route 139/100 junctions and implement the recommendations of the study.
- Any new development on this segment requiring a Traffic Movement Permit should be considered for dedicated turning lanes to maintain existing flows.

- Consider establishing a parallel bicycle path extending from the elementary school eastward to Route 100 and incorporating it into the Messalonskee Trail System/East Coast Greenway.

Regional Strategy:

- Consider expansion of public transit service to the elementary school in Benton.
-

Winslow:

Winslow has significant built-up area adjacent to Waterville (Kennebec River) and has seen significant development at the fringes of this area, as well as light development of rural lands. Much of the residential development has been in the form of multi-family units for senior citizens, partly accounting for the population loss of 200 residents despite a gain of almost 600 units over 20 years. The southern end of Route 201 is seeing new development activity partly spurred by the Carter Bridge and the Winslow Industrial Park.

Winslow's Comprehensive Plan was adopted in 2008 and has clear and effective policies to direct growth to expanding areas of the downtown core, served by adequate roads and utilities. Policies are particularly strong regarding access management and exploring transportation options. The policies are in the process of implementation through a revised zoning ordinance. The plan does not recommend any particular transportation initiatives.

Focus Area: ME Routes 100/137 US 201 (Bay Street), ME Routes 32/137 (China Road)

In the vicinity of the Sebasticook River Bridge, Bay Street has been an historically congested area, although with construction of the Carter Memorial Bridge in 1997, traffic levels dropped substantially. Volumes in 1993 were 23,970 AADT, dropping in 1998 to 14,740.

Traffic volume on Bay Street has gradually recovered since then; In 2008, volume at the Sebasticook Bridge was 17,320 – an annual increase of 1.6 percent over 1998. Interestingly, volume has also continued to build on the Carter Bridge, indicating very substantial increase in traffic overall. Bay Street is the only crossing of the Sebasticook River within Winslow and both sides of the river have substantial development.

China Road (Route 32/137) originates on Bay Street, and carries an AADT of 15,230 (2006), so it takes the major fraction of Bay Street traffic. China Road traffic has remained almost unchanged since 1993. This indicates that the Bay Street to China Road movement has not been affected by the new bridge nearly as much as the Bay Street-south movement.

Bay Street is an urban arterial, three lanes in width (two lanes northbound towards Waterville), widening to four with a dedicated left turn lane at the China Road intersection.

China Road is a major collector, primarily a two-lane road but widening to four lanes between Bay Street and Cushman Road.

The focus area contains Fort Halifax Park, one small strip shopping center and several other small retail and service establishment. The entire area is zoned Commercial. Although characterized by older commercial development, Bay Street is undergoing significant redevelopment of its commercial properties.

The peak flow of traffic is commuter traffic from eastern suburbs towards Waterville. Congestion is most evident in the AM rush into Waterville, when tie-ups occur daily. Several measures have been taken to increase capacity, including recent reconstruction of the Sebec Bridge, but widening is problematic due to existing structures and the adjacent rail line.

A railroad track runs parallel to Bay Street in the area, and is very infrequently used for freight. The East Coast Greenway has a stop at Fort Halifax, and the Rotary Centennial Trail touches the northern point of the corridor, but Bay Street is too hazardous for bicycles to connect the two. The KV transit bus formerly served Winslow but does not now.

Strategies – State:

- Establish an off-road bicycle path between Fort Halifax Park and downtown Winslow (with town and Kennebec-Messalonskee Trails).
- Coordinate signals at Bay Street/China Road and China Road/Route 32 intersections.
- Consider establishment of a park-and-ride facility in the China area.
- (Long term) Evaluate the extension of Carter Memorial Drive northeastward to Garland Road and eventually bridging the Sebec to Halifax Street.

Strategies – Town:

- Establish a master plan for redevelopment of the Bay Street corridor. Seek to limit access points for future development and encourage internal connections and alternate modes.

Additional Strategies:

- Regional: Expand Kennebec Explorer fixed route bus service. The service formerly extended to Winslow, but was eliminated with the most recent route changes.
- MaineDOT: Route 201/137 intersection east of Carter Memorial Bridge is a high crash location. Anecdotal evidence indicates some crashes caused by running through lights. Consider lowering speed limits or setting a longer red-to-green delay.

Lower Kennebec Corridor Site Specific Project Recommendations Waterville - Winslow



Waterville:

The city of Waterville is the service center for northern Kennebec County and a portion of Somerset. It has several major traffic generators, including industrial (Huhtamaki – Route 201), institutional (two hospitals, Colby College – Mayflower Hill Drive, Thomas College – Route 104) and commercial (Route 104 commercial district, Route 11/137 commercial district, downtown area). Industrially zoned land in southern Waterville has produced a local initiative to establish a new I-95 interchange approximately three miles south of exit 127.

Waterville's population growth had been in decline for a number of years, due in part to the unavailability of residential development area and relatively high development costs. That trend may have peaked, with the establishment of a number of redevelopment projects, the most significant being the Hathaway mill complex adjacent to the Waterville Winslow Bridge. Waterville's 2010 population showed 1 percent growth in 2010 after decades of loss.

Waterville's comprehensive plan contains clear and effective policies for directing growth and is implementing them through its zoning ordinance. The plan contains several transportation recommendations, addressing bike trail planning, transit expansion, passenger rail service and future road extensions. It also recommends stronger access management standards for city arterials. The 1997 plan is in the early stages of updating.

Focus Area #1: Route 104 (Upper Main Street) at I-95 Exit 130.

Route 104 for about 0.6 miles south of Exit 130 has experienced the most significant commercial growth in Waterville over the past decade. Route 104 is a four-lane urban arterial that serves both commercial access and commuters from the north and west into Waterville.

Based on DOT traffic counts, overall traffic has increased incrementally on this portion of Route 104. In 2008, the AADT was 18,130, an average increase from 1993 of 1.1 percent per year. On adjacent Armory Road, traffic counts have actually decreased by almost 1 percent per year. Nevertheless, congestion has grown markedly, apparently attributable to additional commercial entrances and new development. The construction of a commercial development (Wal-Mart/Home Depot) within the past decade resulted in significant additional turning movements at an already-constricted segment of the road. Improvements to signalization and road medians installed at the developer's expense have not adequately addressed the problems. A second access point to this development, which would have shifted much of the turning traffic, was proposed for a Phase II but never constructed. Planned signalization upgrades may improve traffic flows.

Additional traffic generators in the area include another major shopping center (Hannaford/Kmart), three hotels, and several small retail buildings. The Waterville Industrial Park accesses Armory Road, which feeds into Route 104. The area surrounding is zoned commercial "B" and "C", which allows a variety of commercial uses but not residential.

Constraints to adding capacity in this area include the I-95 underpass at the north end of the segment, and the proliferation of signalized intersections.

Strategies – City:

- Pursue options for parallel routes to Upper Main Street:
 - #1) Plan for second entrance to Wal-Mart shopping complex;
 - #2) Acquire land or right-of-way and build connector from Tim Horton’s access road to the intersection of Armory Road and Industrial Road.
- Provide bicycle and pedestrian access from North Avenue/Kennebec-Messalonskee Trail system to Wal-Mart complex.
- Promote interconnections between individual commercial sites where appropriate.

Strategies – Regional:

- Increase frequency of Kennebec Explorer bus service to the area.
- Establish long-term goal to work with Town of Fairfield to connect Industrial Road in Fairfield with Industrial Street.

Focus Area #2: Waterville Downtown.

The traditional downtown “Main Street” neighborhood of Waterville consists of a number of commercial and mixed-use blocks adjacent to the Kennebec River. The most significant transportation feature of the downtown is Route 201 which, in addition to being an important arterial highway, is also Main Street for a distance of approximately 0.4 miles. It is a pair of two lane, one-way streets for this distance, with both head-in and parallel parking.

Main Street, one-way southbound, is flanked to the east by Front Street, one-way northbound. On the west, Elm Street (a two-way road) forms the generally-recognized boundary of the downtown. The area is bisected by Spring Street/Bridge Street leading to the Waterville-Winslow Bridge.

The downtown area itself is a major traffic generator. Individual destinations include public parking at the Concourse, city hall, and other municipal lots. On-street parking is permitted throughout the area. Redevelopment of the Hathaway mill complex south of Bridge Street includes over 60 residential units and significant commercial space.

All streets within the downtown have sidewalks, but street crossings may be an issue, as is the case at Bridge Street (crossing study conducted in 2009). Bicycle access is available, but there may be a shortage of storage facilities downtown. New bike racks and some designated bicycle lanes in the downtown have been added in 2011. The two-cent bridge provides pedestrian and bicycle access into Winslow.

Waterville’s two Kennebec Explorer bus routes interconnect in the concourse. There is no formal station, an issue which has been identified. Waterville’s primary rail yard lies at the

northern edge of the downtown, and place has been set aside for a terminal should passenger service be restored.

The City has worked for years on ways to improve circulation in the downtown. Studies have examined overall parking availability, connections across Bridge Street, and improvements to downtown circulation. The Riverfront Master Plan (2001) recommends improvements to Front Street and Temple street and changes to the street patterns at the Bridge Street intersection and the Colby Circle loops.

Strategies – State:

- Redesign Bridge Street/Main Street/ Water Street intersection for traffic calming and improved pedestrian crossing safety (Riverfront plan recommendation).
- Extend Chaplin Street (north end of downtown) to connect with Front Street. Eliminate loops and slip lanes and design redevelopment to merge with existing downtown.
- Reduce Front Street to one travel lane or restore two-way traffic to slow speeds and give Front Street a more urban identity (Riverfront plan recommendation).
- Identify and mark bicycle connections between the Kennebec-Messalonskee System and downtown destinations and install additional bicycle storage facilities.
- Consider reassigning the US Route 201 designation to run from College Ave. to Elm Street to Silver Street to the river crossing at Carter Bridge, to reduce through traffic, primarily trucks, in both downtown Waterville and Bay Street in Winslow.

Strategies – City:

- Establish a permanent transfer point facility for Kennebec Explorer in the Concourse, with enhancements such as public bathrooms, information center, etc. Increase frequency of KE service.
- Improve Temple Street as a connection to Head-of-Falls parking and redevelopment.
- Re-align side-road (Getchell Street, North Street) intersections along College Ave. and Upper Main Street to provide safer access and crossings.

Waterville General Strategies:

- Regional: Expand Kennebec-Messalonskee trail system.
- City: Implement additional access management and traffic channelization strategies on Kennedy Memorial Drive (ME Route 11/100/137) as development proceeds.

- City/Private: Add I-95 interchange at Trafton Road, improve Trafton Road, and extend Airport Road to link with Webb Road, in conjunction with rezoning and redevelopment in the area.
 - City: Promote the restoration of passenger rail service.
-

Oakland:

As a near-suburb of Waterville, Oakland experienced dramatic growth in the 60's, 70's, and 80's, and slightly slower growth (0.6% per year) since 1990. The current population is 6,280. Oakland has a large, traditional village area, but a lot of development in rural areas and along lakeshores. FirstPark Business Park is located along the boundary with Waterville, on Route 11/100/137, the town's busiest road. Other than the school complex, there are no other significant traffic generators in the town.

Oakland's comprehensive plan lays out a clear growth area and strategy, but it has never been implemented. Access management recommendations were among those not implemented. No specific transportation initiatives were recommended. The plan was adopted in 1991. A long-range planning committee has been formed, but has not yet begun formally updating the plan.

Focus Area: Pleasant Street/Downtown Oakland:

Oakland's primary transportation infrastructure is ME Route 137, known locally as Waterville Road east of downtown and High Street to the west. Waterville Road is the four-lane extension of Kennedy Memorial Drive as far as ME Route 23, and has seen a net decrease in traffic between 1996 and 2006, despite significant development including First Park. High Street, by contrast, has seen an average annual traffic increase over two percent, demonstrating the increasing impact of suburban development west of Waterville; AADT in 2008 was at 7,000.

Route 137 jogs onto Oak Street and Main Street downtown, to provide access to downtown merchants. But the direct connection between Waterville Road and High Street is Pleasant Street. A segment only 0.3 miles in length with no route designation, Pleasant Street has seen growth in traffic volumes – an average of 1.2 percent per year between 1994 and 2008. With an AADT of 7,810 (2008), it is the busiest two-lane road in Oakland.

Pleasant Street is a two-lane road with narrow shoulders. It is a high crash location for a portion of its length, including its intersection on the west end with Oak Street. The Williams Elementary School seems to be the source of significant congestion; A service road connects the three schools but is not apparently used to alleviate school-related congestion. Commercial development and a rough railroad crossing also account for congestion and road hazard. Both ends of Pleasant Street are signalized.

Pleasant Street carries the most traffic and overall greatest congestion in the general downtown area, but the remaining downtown is traditionally congested and highly developed as well. Major roads in the downtown area include ME Route 11 (Main Street/ Church Street) carrying an AADT of 6,910 in 2006, and ME Route 23 (Water Street), carrying an AADT of 3,300 in 2008. Church Street has seen substantial traffic growth over the past decade (2.2 percent per year) but that has been somewhat offset by a decline on Water Street. A proposal to build an I-95 interchange at Trafton Road would divert some traffic into downtown Oakland and through a particularly poor intersection with Routes 23 and 11.

Downtown Oakland is also served by Pan Am Railways for freight rail, with at-grade crossings at Oak Street and Pleasant Street. The condition of these crossings has been a source of continued complaints. The Kennebec Explorer bus does not yet provide service to Oakland. Portions of the Kennebec-Messalonskee System's offroad bicycle and pedestrian trail network connect downtown Oakland with Waterville.

Strategies – State:

- Expand Pleasant Street to three lanes between Oak Street and the railroad crossing with a center left turn lane oriented specifically to the elementary school.
- Expand Pleasant Street/Oak Street intersection to facilitate left turn movements.
- Rebuild railroad crossings on Pleasant Street and Oak Street.
- Add/improve sidewalks connecting the school complex with residential neighborhoods and consider establishing a “walking school bus” program.

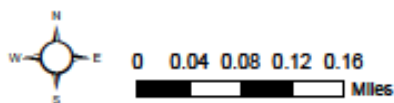
Strategies – Town:

- Utilize the road connecting Williams Elementary School with Messalonskee Middle and High Schools and the bus barn to alleviate traffic congestion on Pleasant Street.

Oakland General Strategies:

- Regional: Expand Kennebec Explorer service to FirstPark and downtown Oakland.
- MaineDOT: If new interchange at Trafton Road is constructed, significant commuter traffic will relocate from Waterville Road to Route 23. There will be a need to increase capacity and safety at Route 23/11 intersection “Haymarket Square.”
- MaineDOT: Concurrent with potential development of Trafton Road interchange, re-designate Trafton Road as a Major Collector; reconstruct along with Route 23.
- Regional: Continue to extend the Kennebec-Messalonskee trail system into downtown.

Lower Kennebec Corridor Site Specific Project Recommendations Oakland



Legend

- Site Specific Projects
- ▲ Commercial Centers
- colleges
- Industrial/Parks

Sidney:

Sidney is an entirely rural and suburban community sandwiched in between Waterville and Augusta. There are no true village or compact development areas in Sidney, nor significant traffic generators. The area surrounding the I-95 interchange may be emerging as an industrial node and ME Route 27, which cuts through the southwestern corner of Sidney, is experiencing some development pressure emerging from Augusta.

Sidney's defining characteristic is as the fastest-growing town in central Maine, with an annual population growth in the 2000's of two percent – more than 300 new households in a ten-year period. Sidney's growth has affected traffic levels on all major roads. Traffic on Lyons Road, accessing the I-95 interchange, has grown by 4.8 percent per year over 12 years. Traffic growth on ME Route 27, Sidney's busiest road at 6,700 AADT (2008) has averaged 1.6 percent per year, although most of that is bound for further suburbs. Traffic on the Middle Road, at 1,960 (2006) has averaged 3.0 percent growth per year. ME Route 104 (River Road), at 1,460 (2006) just south of Lyons Road, has increased 4.0 percent per year. ME Route 23, which is subject to high seasonal traffic fluctuations, has gained traffic at 3.4 percent per year at its northern end (listed as a high crash segment) and 2.4 percent at its southern end.

While traffic growth levels in Sidney are reflective of development rates, there are no locations where the capacity of the roadways will be threatened in the next 20 years. Because several of its roads are major or minor collectors, however, they are low priority for upgrading to a built standard.

Sidney last updated its comprehensive plan in 2003. The plan did not identify specific areas in town for development or preservation, and was not accepted by the SPO. Transportation recommendations include advocacy to Maine DOT for improvements to the Middle Road and the development of a bicycle plan. The plan also recommended local access management regulation, but this has not been implemented. Based on the plan, there is no reason to think that generalized residential growth will not continue to outpace the rest of the corridor.

Strategy – State:

- Improve Routes 23 and 104 (major collectors) and the Middle Road (minor collector) to contemporary standards.

Strategy – Regional:

- Develop a regional bicycle plan accessing Sidney.

Vassalboro:

Vassalboro, like Sidney, is sandwiched between the service centers of Augusta and Waterville (Winslow), but situated on the east side of the river, without direct access to I-95. Vassalboro's primary road is US Route 201, a retrograde, mobility arterial along the western edge of the town. US Route 202 cuts across the southern corner of town. The community school on Bog Road is the only significant individual traffic generator. Two villages are situated on ME Route 32.

Vassalboro has a history of substantial residential growth, but very little commercial development. The current population of 4,340 represents about seven percent growth over the decade. Construction of the Carter Bridge in southern Waterville/Winslow was expected to open up potential residential development in northwestern Vassalboro, but there is no evidence of any focused development. Home-building, averaging about 23 a year, appears to remain scattered throughout town.

The generally dispersed nature of development in Vassalboro is reflected in traffic patterns. Route 202 is by far the busiest segment in town, at 7,700 AADT in 2007, but it serves only a small corner of Vassalboro, and is outside of this corridor. The primary north-south routes in town are Route 201, in the west, and Route 32, in the east. Route 201 traffic at the south end grew at an annual rate of 2.6 percent earlier this decade, and stood at 4,540 in 2007. However, by 2008, traffic had declined back to about 1994 levels. The same pattern is evident at the Winslow end, with an AADT at 4,850 in 2006. On Route 32, in North Vassalboro village, traffic counts grew from 3,960 in 1996 to 4,110 in 2006. In East Vassalboro, counts have grown more substantially, from 1,850 in 1996 to 2,390 in 2008 (3 percent per year).

Vassalboro adopted a comprehensive plan in 1992, and has made some efforts at updating it since that time. The plan contained strategies to focus development on small segments of Routes 201, 202, and 32. The Land Use Ordinance implements these strategies, but does not constrain the location of development. Although growth continues relatively unconstrained in Vassalboro, there are not any looming transportation issues. Within the villages, there are isolated pedestrian conflicts, which have been identified in the town's 2011 Pedestrian-Bicycle Plan. US 201 is currently identified as an element of the East Coast Greenway.

Strategies – State:

- Road surface improvements to Route 32
- Fund implementation of elements of the Vassalboro Pedestrian-Bicycle Plan.

Augusta:

Augusta is the principal service center for the corridor, as well as the state capital. After three decades of steady decline in population, the City recouped somewhat, growing three percent in the 00's to now stand at 19,136. The Capitol and state office buildings are a major traffic generator. Extended commercial areas on ME Route 27, near I-95 Exit 112, and US Route 202, near Exit 109, are significant traffic generators. Other than the immediate vicinity of the east shore of the river, eastern Augusta is relatively undeveloped commercially.

Augusta's comprehensive plan, adopted in 2007, contains a clear set of strategies for development of growth areas within the city, including both zoning and transportation infrastructure recommendations. Principal growth areas, however, are located adjacent to the I-95 interchanges. The plan contains multiple strategies for multi-modal transportation improvements, and is supported by a sophisticated zoning ordinance.

Focus Area: Northwest Augusta

A considerable portion of the northwest quadrant of Augusta is designated in its 2007 Comprehensive Plan as the city's "Economic Growth Area." The focus of this district is US Route 27, along with I-95 exits 112 and 113. Old Belgrade Road, a town way, and Leighton Road, a major collector, access other portions of this area.

The Augusta Planning Board has confirmed that this portion of the city is the "hot spot" for growth in the next few years. Expansion of the Central Maine Commerce Center, anticipated relocation of the MaineGeneral Hospital, and relocation of several state government offices add to the existing Augusta Market Place, Civic Center, Augusta Business Park, and substantial additional traffic generators. In addition, Route 27 is a significant commuter route.

Just south of Exit 112, Route 27 carries 20,250 AADT (2008). Despite the fact that the road is a four-lane arterial with dedicated turn lanes and signalized intersections, the interchange is considered to be at or near capacity.

North of Exit 112, Route 27 narrows to a 2-lane road, though substantial portions have been restriped for dedicated turn lanes. Several traffic signals have been installed in recent years to account for increased volumes from side roads and adjacent development. At the western edge of the growth area, traffic on Route 27 has increased from an AADT of 9,500 in 1996 to 12,940 in 2006 – an annual growth rate of 3.1 percent. Since this point is beyond the current development activity, the increase may be attributed simply to commuter traffic.

There were no intermediate count points in this area until 2007. In 2008, a station installed near Leighton Road recorded 15,300 AADT. Leighton Road has been developed over years as a commercial (non-retail) service road, running parallel to I-95 between Exits 112 and 109. At roughly its middle, 2006 traffic averaged 6,550, an average annual increase of 4.9 percent over ten years. Most development is at the northern (Route 27) end, however.

Traffic on Old Belgrade Road has stayed relatively low, with an AADT at the I-95 overpass of 2,880 in 2005. However, the establishment of the Alford Cancer Center and prospect of the new hospital has focused intense scrutiny on this road. Presumably, the new hospital will substantially alter traffic patterns in the area, in addition to adding traffic. Old Belgrade Road's intersection with Bog Road at its northern end is a high crash location.

This plan presumes the completion of the hospital project and the Exit 113 connection to Old Belgrade Road. If Old Belgrade Road were improved as well, the expanded interchange would alleviate some turning movements at Exit 112: most importantly, the left turn from Route 27 onto I-95 northbound.

Strategies – State:

- Increase capacity of Route 27 between I-95 underpass and Bog Road intersection, a distance of roughly 1.65 miles. This may either be done in stages (e.g. underpass to Leighton Road, then Leighton Road to Bog Road) or incrementally (e.g. add a center turn lane, later add another travel lane). Based on the healthy pace of development, this might be achieved by the City through exactions or impact fees.
- Connect Exit 113 beyond Old Belgrade Road to Route 27. Since this would become the primary access between the hospital and the city, the intersection with Route 27 would have to be signalized.
- Long-term, connections between Route 27 and Route 202 to the south will need to be expanded. If the Exit 113 connection is not aligned with Leighton Road, then it should be located so that it may be further extended to serve western Augusta/eastern Manchester and connect with Route 202.

Strategies – City:

- Improve Old Belgrade Road, including the intersection with Bog Road and Route 27.
- Expand Augusta bicycle network to include safe connections to the proposed hospital and existing commerce center.

Additional Areas of Concern for Augusta:

Downtown/Water Street/State Street:

Augusta's downtown has experienced periodic congestion for years, with limited capacity in bridges, rotaries, and downtown streets. Water Street is the traditional commercial center of Augusta, but has not shown significant growth in traffic in the past few years. State Street (US 201) has capacity and development potential, but is being passed over in favor of the new growth areas on the outskirts. Mt. Vernon Ave. (ME Route 27) into downtown is poor,

though plans are in place to improve it. The Western Ave. (US Route 202) link has improved measurably since a 2009 signalization project.

Significant changes have been made to downtown traffic movements. Changes to rotary traffic flows have reduced congestion. A downtown parking garage has alleviated some parking demand. Some lane and signalization changes have improved flows. However, the current street system is established and constrained by existing development and river crossings, so road options are limited. The Cushnoc Bridge has reduced downtown traffic, and the relocation of the hospital is likely to further reduce it.

Western Avenue:

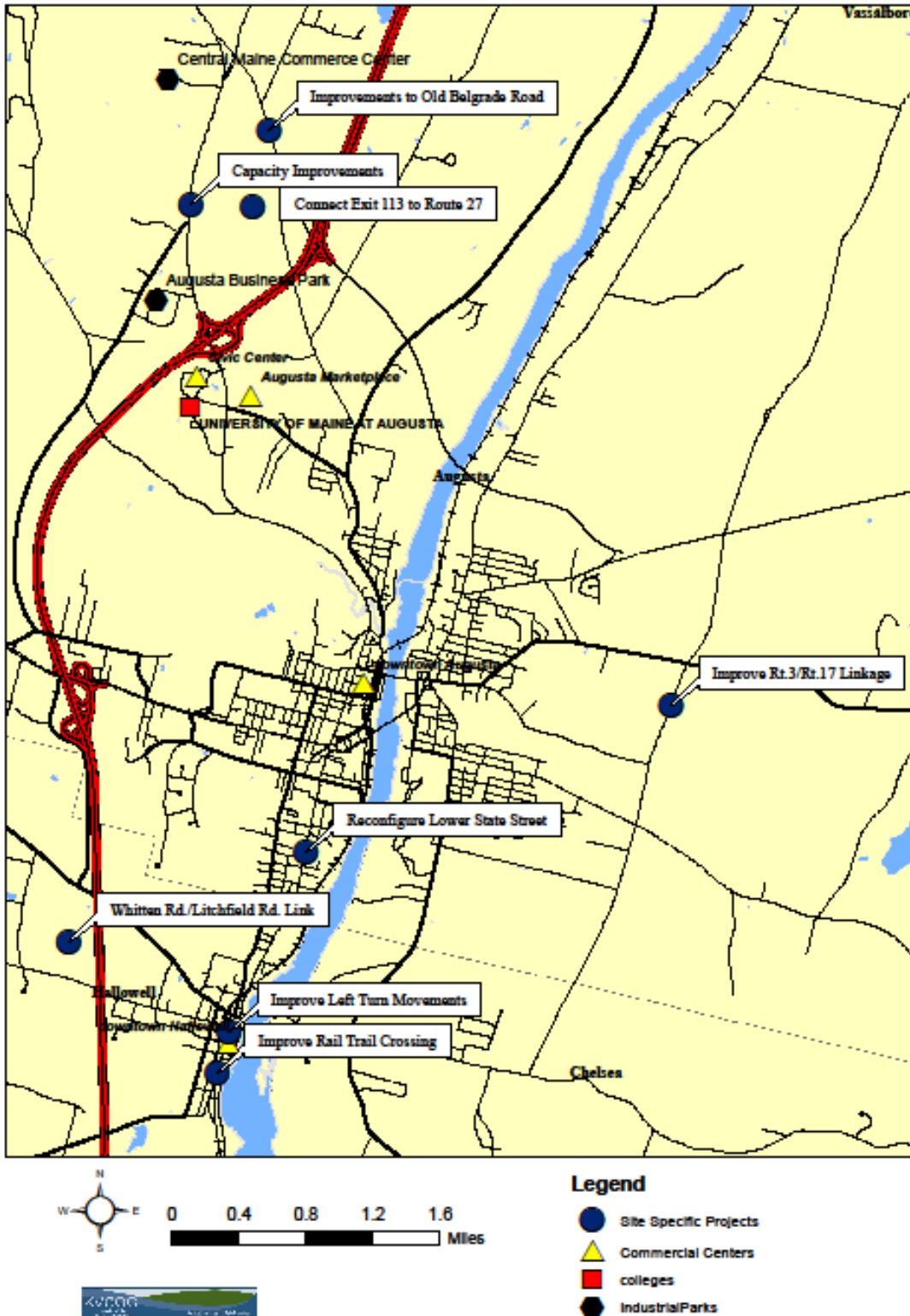
Western Ave. has been a focal point in the past, but much less so currently. Western Ave. includes an interchange with I-95 and terminates in the Memorial Circle rotary. All of Western Ave. has at least two through lanes in each direction, and much of it has a raised central median. Prior to growth on Civic Center Drive, Western Ave. was the focus of commercial development in Augusta. A city-imposed system of impact fees have paid for many traffic improvements.

Improvements along Western Ave include redesign of the rotary, rechanneling of traffic flows at the west end, and signalization timing changes. In addition, proposed changes to the federal weight limits would remove some large trucks from the road. Although the AADT of 27,250 on Western Ave. is one of the highest in the region, the 2008 count is actually a decline of 13 percent over 15 years. Traffic is likely to further decline with relocation of the hospital.

Additional Strategies for Augusta:

- Regional: Increase routes and frequency for Kennebec Explorer.
- City: Implement citywide trail and sidewalk plan, including expanded bicycle infrastructure.
- City: Regulation to control the addition of access points onto Western Ave., Mt. Vernon Ave., Bangor Street.
- City: Prepare for potential re-establishment of passenger rail service through Augusta, identify possible passenger station location.
- City: Establish a downtown trolley system.
- MaineDOT: Reconfigure Lower State Street (US Route 201) to three lanes (middle turn lane) and expand sidewalks.
- MaineDOT: Improve road connections between ME Route 3 and ME Route 17 in East Augusta.

Lower Kennebec Corridor Site Specific Project Recommendations Augusta - Hallowell



Chelsea:

Chelsea is generally regarded as a residential suburb of Augusta. Its 2010 population of 2,721 represented a nine percent growth over 20 years. Commercial development is minimal, although growing along ME Route 9 (River Road). Togus VA Hospital, at the northeast corner, is a significant traffic generator. Barring the creep of commercial strip development along Route 9, the predominant form of development is residential subdivision. Route 9 is by far the busiest road. Its 2006 AADT of 9,210 represented an average annual increase of 0.9 percent since 1993.

Chelsea has no existing congestion issues. Its primary issue is safety associated with access to Route 9. A proliferation of access points have been created or exacerbated by development fronting Route 9. Increased feeder road traffic, travel speeds and some sight distance issues have contributed to safety concerns on Route 9.

Chelsea's comprehensive plan was updated in 2003, but never submitted for review by the State. The plan contains minimal policies for encouragement of growth and rural distinctions, but does recommend establishment of an ordinance to regulate commercial development on the major roadways. Transportation strategies include working to alleviate perceived safety issues on Route 9 and Windsor Road, development of bikeways or bike lanes along Route 17 and 226, and development of a comprehensive trail plan for the town.

Strategies – Town:

- Pre-planning and regulation for access management along Route 9.
- Comprehensive, townwide multi-purpose trail plan.

Hallowell:

Hallowell consists of a long-established, industrial era downtown and a developing rural area. The downtown area is vibrant – both a major traffic generator and a significant corridor for commuters to Augusta. The town itself is gradually declining in population, with a 2010 level of 2,381, possibly because of the lack of developable area for growth. The transportation network is somewhat constrained by the river, the topography, a rail line, and I-95 (with no access points), but is augmented by a popular rail trail and local bus service.

Hallowell adopted an update to its comprehensive plan in 2010. The plan contains clear and effective strategies to encourage commercial, mixed-use, and high-density residential on Water Street, Winthrop Street and Whitten Road, while still encouraging residential development in the rural areas. Strategies directed at transportation include several statements to support or oppose DOT efforts in various activities. Specific projects include development of a citywide bicycle and pedestrian plan, establish traffic calming in neighborhoods, enhance public transit connections, and consideration of a connection between Whitten Road and Litchfield Road.

Focus Area: Water Street (US Route 201)

Hallowell's Water Street traverses north-south the length of Hallowell and is a prime example of the conflicts generated by a major commuter corridor which is also the established commercial center of town. Water Street carried an AADT in 2006 of 11,170 at its northern end and 13,610 at its southern end, although the central segment is the busiest, carrying over 16,000 trips per day. Water Street traffic counts have shown a dramatic decline since 2003. It's possible that the construction of the Cushnoc Bridge in northern Augusta affected commuter travel patterns. Although heaviest traffic is experienced during commuter peaks, constricted spaces and heavy pedestrian use contributes to congestion conditions for many hours during the day.

The most critical segment of Water Street is approximately 0.4 miles from Winthrop Street south to Elm Street. This segment is two lanes, with on-street parking both sides, and several intersections. The Water Street/Central Street intersection is a high crash location. Topography and existing buildings preclude expansion of the road cross-section or alternative routing. Infrastructure changes over the years have resulted in a sloping and uneven cross-section. The City has requested DOT assistance in correcting this situation.

Downtown Hallowell is a popular pedestrian district. Pedestrians crossing Water Street interrupt vehicle movements. Sidewalks are adequate width but have no separation from either parking aisles or storefronts. Although the City has identified 716 off-street and on-street parking spaces, parking is considered tight and in need of expansion. The Kennebec River Rail Trail ostensibly follows Water Street through the downtown, but there are alternative paths. A rarely-used rail line parallels Water Street to the west.

A road solution is not apparent. Adding a turning lane would require the loss of at least one parking aisle. A traffic signal at Winthrop Street has been considered but rejected. The removal of the Vaughn Street bridge in the early 90's eliminated a relief route.

Hallowell is in the process of completing a downtown plan. Among other things, the plan discusses the parking shortage, the attraction of downtown for pedestrians, and the popularity of the rail trail.

Strategies – State:

- Improve turning movements at Route 201/Winthrop Street and 201/Central Street intersections.
- Upgrade and improve access to existing crosswalks, to reduce jaywalking.
- Improve the Water Street crossing of the rail trail.
- Long-term, plan for Whitten/Litchfield connector road and/or new I-95 interchange in southern Hallowell/northern Farmingdale, to alleviate commuter traffic.

Strategies – City:

- Acquire and develop additional property for off-street parking, to compensate for on-street spaces lost to crosswalks or turning lanes.
- Improve connections of the rail trail to the existing downtown sidewalk network.

Strategy – Regional

- Increase frequency and stops of the Kennebec Explorer bus service.

General Strategies:

- City: Engage in access control pre-planning on Whitten Road.
- City: Improve bicycle and pedestrian connectivity citywide, with a bicycle-pedestrian plan and strategic location of amenities and route connections.

Farmingdale:

US Route 201/Maine Avenue in Farmingdale is the primary transportation corridor and has historically been a problem area. However, recent road improvements along the southern segment, and improvements in process along the northern segment, have greatly reduced congestion and improved safety. The railroad and the Kennebec River Rail Trail parallel Maine Ave. to the east. The popularity of the rail trail has created unexpected consequences – roadside parking congestion at trail access points. Maine Avenue carried a high AADT of 15,840 in 2006, but as with the corridor segment in Hallowell, trip numbers along the segment have dropped off dramatically over the decade.

The Hallowell-Litchfield Road in the western portion of the town is relatively undeveloped but used frequently as a commuter route. The 2008 AADT was 1,770. Travelers on this road often turn onto Maple Street, past the Hall-Dale school complex, to access Route 201.

Farmingdale’s comprehensive plan, adopted in 2006, identifies Maine Ave. as the obvious growth area. The plan expressed concern over a proliferation of access points, and recommended a Maine Ave. Task Force to make a complete set of recommendations, but was not implemented. The plan also recommended a look at alternative routing of Maine Ave. traffic, such as an I-95 interchange.

Strategies for Farmingdale:

- State: Create off-street parking for the Kennebec River Rail Trail.
 - State: Long term, plan for new I-95 interchange in northern Farmingdale or southern Hallowell.
 - Town: Following completion of Maine Ave. improvements, form a task force to evaluate the need for access management, crosswalk locations, or other transportation improvements on Maine Ave.
-

Gardiner:

Gardiner is the southernmost service center community on the corridor. Like the other service centers of Augusta and Waterville, commercial activity within the core has been healthy while population has been in decline. Gardiner's 2010 population of 5,800 is a decline of about 950 residents from 1990.

Gardiner's historic downtown area is a significant traffic generator, as is Libby Hill Business Park. The city has two interstate interchanges (one technically in West Gardiner) with park-and-ride capacity. The Kennebec River Rail Trail terminates in downtown, but early plans are underway to extend it southward towards Richmond. The Kennebec Explorer makes a single stop downtown on its Augusta-Gardiner route.

Gardiner's comprehensive plan was adopted in 1995. The plan essentially builds on the pre-existing zoning ordinance to accentuate existing built-up areas. The plan does recognize conflicts in access management along major roads, but the only project-specific recommendation is to redesign the Water/Bridge/Brunswick Streets intersection for truck passage.

Focus Area: Downtown

Downtown Gardiner is a potpourri of constraints to the transportation system. Traffic is funneled to and from a limited number of stream crossings (Kennebec River and Cobbossee Stream); the downtown area is heavily developed with buildings of all genres, hills and steep grades to the south pose obstacles, and several heavily-travelled highways converge into a small central area. The resulting congestion encourages savvy residents to detour onto neighborhood roads.

US Route 201 is a major arterial that enters the downtown from the north (Farmingdale) and departs south towards the I-295 interchange. The daily traffic count on Route 201 just north of Water Street (Cobbossee Bridge) was 14,380 in 2008. Once departing the downtown, Route 201 (Brunswick Ave.) traffic drops to 7-8,000 (2008) as far as the I-295 ramps. Anecdotal evidence suggests that much of the traffic along Route 201 and crossing the Gardiner-Randolph Bridge is non-Gardiner traffic avoiding tolls or weight limits on the interstate.

ME Routes 9 and 126 enter the downtown from the northeast across the Gardiner-Randolph Bridge, and pass through to the west on Water Street/Cobbossee Ave. to the West Gardiner interchange with the Maine Turnpike. At the bridge, traffic on this route reaches 19,400 AADT (2008); just west of downtown, it drops off to approximately 7,500. Cobbossee Ave. travels alongside Cobbossee Stream, in a narrow corridor alongside mostly-abandoned industrial sites. The City has prepared a Cobbossee Corridor Master Plan for transportation and redevelopment initiatives along this route. ME Route 24 also feeds traffic into the downtown from South Gardiner.

There is very little opportunity for infrastructure expansion in the downtown. Strategies must focus on finding alternatives and opportunities to reduce trips overall.

Strategies – State:

- Develop ways to discourage interstate traffic from detouring through Gardiner.
- Improve Water/Bridge/Brunswick Streets intersection to facilitate truck movements.

Strategies – City:

- Improve bicycle safety downtown and add storage facilities.
- Implement transportation improvements along Cobbossee Corridor.
- Install speed tables or other traffic calming devices to discourage traffic cutting through residential neighborhoods.

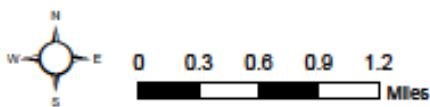
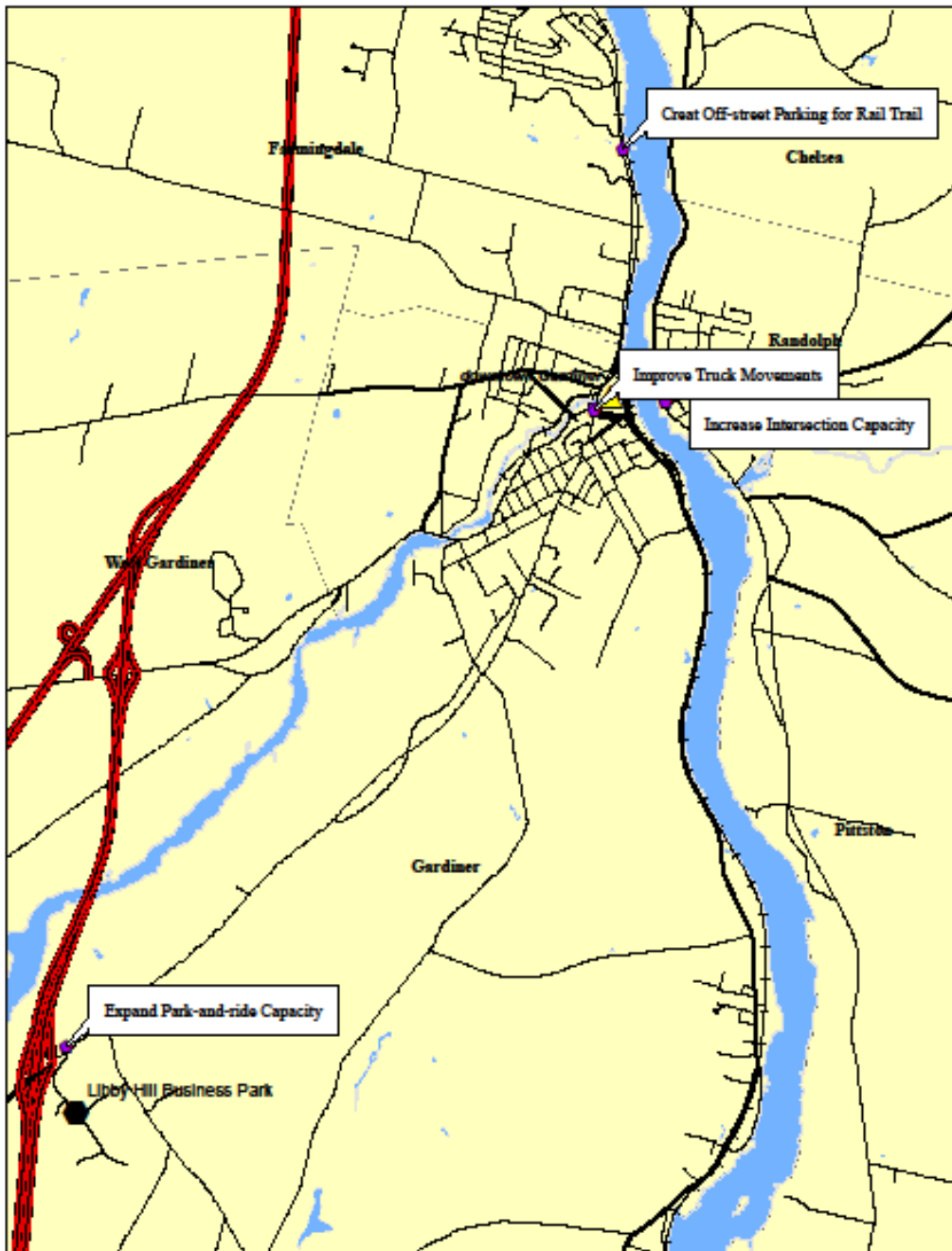
Strategies – Regional:

- Expand and promote Kennebec Explorer bus service within downtown Gardiner.
- Expand Gardiner’s bicycle trail network from the Kennebec Rail Trail to Cobbossee corridor and south to proposed Merrymeeting trail.

General Strategies:

- Maine DOT: Relocate or expand park-and-ride lot at I-295, Exit 49.
- City: Develop comprehensive traffic strategy for Brunswick Ave., coordinating signalization, turning movements, and access management.

Lower Kennebec Corridor Site Specific Project Recommendations Gardiner-Randolph-Farmingdale



- Legend**
- Site Specific Projects
 - Commercial Centers
 - colleges
 - Industrial Parks

Randolph:

Randolph is a very small (1.8 square mile), urban village situated just east of the Gardiner-Randolph bridge. Because it has little undeveloped land, the rate of housing growth has been minimal, and the population has hovered between 1,700 and 1,900 for at least 50 years (now at 1,772). There is some commercial activity along Water Street (ME Route 27), but no significant traffic generators.

Because Water Street distributes traffic from the bridge, it has high traffic counts relative to the population. The 3-lane segment between the bridge and Windsor Street carried an average of 17,460 vehicles per day in 2006. A large fraction of the traffic is commuters into Augusta or Gardiner, so the AM and PM peaks are pronounced.

Windsor Street (ME Route 226) just west of the intersection carried an AADT of 6,760 in 2006, siphoning off close to 1/3 of total traffic. The intersection is unsignalized. It is a local concern because a large gas station/ convenience store has been approved for one corner and is pending construction. The intersection has been listed as a high crash location, and construction of the development is expected to include intersection improvements.

Randolph's comprehensive plan was adopted in 1997, and is in the early stages of updating. Since Randolph has little rural area, the plan focused on development and redevelopment of existing growth areas. Implementation included revisions to the subdivision ordinance and development of a new commercial development ordinance with access management provisions. Recommendations included expanding the town's sidewalk system and extending KV Transit (now Kennebec Explorer) service to Windsor Heights (apartment complex).

Strategies:

- Maine DOT: Evaluate Windsor Street/Water Street intersection before and after intersection improvements, to determine if additional improvements are warranted.
- Maine DOT: Expand park-and-ride lots.
- Town: Expand in-town sidewalk system.
- Regional: Extend Kennebec Explorer bus service to Windsor Heights.

6: Corridor-Level Recommendations

The majority of recommendations contained in this plan address specific congestion or movement problems associated with downtown areas, intersections, or interchanges. These are the “bottlenecks” within the system, and thus the highest priority for a return on investment. This point-by-point perspective tends to exclude transportation improvements that cross town boundaries, or improve system operation overall. This chapter evaluates and provides suggestions for improvements that would benefit multiple towns or the corridor in its entirety.

The Lower Kennebec Corridor, despite being the most populated and most heavily-traveled corridor in central Maine, is not a typical commuter corridor. The corridor is a series of services centers that pull workers from surrounding communities. In other words, the corridor is linear, while commuter-to-work patterns are radial.

Trips within the corridor tend to be a mix of short distance commutes, trips to retail or services, or recreational. Commercial activity has been increasing, at least through 2008, and essential service providers, such as medical or state government, are strong or growing. This suggests the need for relatively short, station-to-station trips, the kind that might be served by alternate transportation modes.

The following recommendations are focused on modal opportunities that would benefit multiple communities within the corridor.

Public Transit Service:

The Kennebec Valley Community Action Program’s Transportation Program. Recently branded *Kennebec Explorer*, the program has a set of routes that serve the Waterville-Fairfield area and Augusta, with one route connecting the two. Ridership is increasing as the public is becoming more aware of the service.

KVCAP has developed expansion plans. The expansion plans will be implemented as fast as there is funding for them. Although most funding is federal, a certain percentage must be local – a hard sell in current circumstances. Expansion plans show the *Kennebec Explorer* growing in both geographical area and frequency of service.

KVCAP works in cooperation with Maine DOT, municipalities, special needs groups, and KVCOG to identify existing and projected service needs. The KVCAP service is at a disadvantage of being a rural provider. While some commercial destinations are sufficient to justify service, very few residential blocks have sufficient density to support the system. The resulting routes contain many commercial destinations and few residential ones. In some cases, users must walk, drive, or bike to one commercial node just to catch a bus to another.

Strategies for Public Transit Improvements:

- Support rapid expansion of the Kennebec Explorer bus system according to existing plans.
- Identify additional residential nodes or neighborhoods that could be added to service routes.
- Ensure that adequate intermodal facilities (parking, sidewalks, bike storage) are available at bus stop locations. Identify park-and-ride lots as flag stops.
- Establish permanent central bus shelters at transfer points in Waterville and Augusta.

Bicycle Transportation:

Cycling as a mechanism for intercity or intracity travel is growing in popularity, slowed only by the lack of convenient facilities. Until recently, there have been few cycling options other than road shoulders, and few to no storage facilities at destination points.

The creation of a bicycle network requires planning and organizational support as well as implementation. The corridor's most successful bike trail, the Kennebec River Rail Trail, benefited from both a trail organization and a "friends" group. In the Waterville area, Kennebec-Messalonskee Trails is an independent non-profit organization. The rail trail is a mostly-separated, paved trail paralleling the Kennebec River from Gardiner to Augusta. The K-M is a developing network of bicycling, pedestrian, and hiking trails in Waterville, Fairfield, Oakland, Benton, and Winslow.

Several communities in the corridor have identified planning for bike trails (as well as pedestrian connections) as a priority. The City of Gardiner has completed a bicycle plan, and begun work on a Cobbossee trail extension and a Merrymeeting connection. Vassalboro has completed a bicycle-pedestrian plan and is moving to implement it. Waterville and surrounding towns are implementing the Kennebec-Messalonskee trails plan. Sidney, Augusta, Chelsea, and Hallowell have suggested some form of trail planning in their comprehensive plans.

In addition to the rail trail and K-M network, the East Coast Greenway extends through the corridor. The goal of the greenway is to create a separated bicycle trail, but within this corridor, only a small portion of the rail trail is part of the greenway and separated. Parts of the K-M network will be incorporated when completed.

Secure storage facilities give an additional level of comfort to cyclists. Storage racks, out of favor for many years, are beginning to make a re-appearance. Waterville, Gardiner, and a limited number of private developers have placed bike racks in convenient public locations. The Kennebec Explorer provide bike racks on its public bus system.

Strategies for Regional Bicycle Enhancement:

- Prepare additional bicycle or bike-ped plans and coordinate into regional plan.
- Identify opportunities to develop the East Coast Greenway.
- Encourage the placement of additional bicycle storage facilities at key locations and intermodal points.
- Assist municipalities in revising ordinances to expand bicycle access to commercial and residential developments.

Rail Service:

Railroad tracks parallel the Kennebec River, but the tracks are in multiple ownerships and varying maintenance conditions. Portions of the track are impassable and some segments see extremely rare use. The rail line with regular use is the Pan Am-owned track from the Lewiston area through Waterville to Bangor. Pan Am utilizes a freight and maintenance yard in Waterville, where an intermodal freight transfer station was located until recently.

Freight access to the rail system is sporadic. The SAPPI mill in Skowhegan, the Madison Paper Mill, and Huhtamaki depend on rail freight, but other users are rare.

Most towns in the corridor support the re-introduction of passenger rail service as it becomes feasible. The success of the Downeaster service and its pending extension from Portland to Brunswick has stimulated discussion of “next steps.” Although supported by wording in local comprehensive plans, towns along the corridor have not been active in advocating for restoration of service.

Strategies for Improving Rail Service:

- The State should support preservation of the rail corridor for future expansion of freight and passenger services.
- Municipalities should express an interest in exploring restoration of passenger rail service.

Commuter Alternatives:

Although most of the workers inside the corridor come from dispersed locations that are not conducive to commuter options, there are also many residents who travel through the corridor to jobs beyond, primarily to the south. This is indicated by the location of existing park-and-ride lots: one in Randolph, two in Gardiner, two in Augusta, and none north of Exit 112.

Existing park-and-ride lots are utilized. In Gardiner, the municipality has indicated that the Exit 49 park-and-ride should be expanded or relocated to increase capacity. The Randolph park-and-ride is served by a shuttle to Bath Iron Works, and is heavily utilized.

The planned expansion of Exit 113 provides a good opportunity to add park-and-ride capacity. The Maine DOT is in negotiations to acquire land for a park-and-ride at Exit 127 on KMD in Waterville. The State already owns land near Exits 132 and 133 in Fairfield (KVCC and DOT Training Facility, respectively) with potential for development. Exit 133 would be the most logical candidate, since US Route 201 drains commuter traffic from all of Somerset County.

Strategies for Expansion of Commuter Options:

- Expand or relocate the Gardiner Exit 49 lot.
- Incorporate park-and-ride capacity into planning for the Exit 113 expansion.
- Establish a park-and-ride lot at Waterville Exit 127.
- Establish a park-and-ride at Fairfield Exit 133.
- Place secure bicycle storage facilities at park-and-ride lots.