

Chapter VI

Circulation

**CHAPTER VI
CIRCULATION**

VI.1 Existing Conditions, Trends and Projections

Transportation access and circulation in the Town of Burrillville is primarily auto-oriented on **48 miles** of state highway and approximately **95 miles** of town and public ways. This information is derived from the Town's GIS and functional classification mileage as shown in Technical Paper 155 (which shall serve as Table VI-1 herein) on the following website: <http://www.planning.state.ri.us/transportation/155/text/burrillville.pdf>. The 1966 Comprehensive Plan inventoried approximately 40 miles of state highway and 96 miles of local roads.

The primary orientation of the system is in a southeasterly direction toward Route 44 and in a northeasterly direction to Route 7 (Douglas Pike) or towards the Route 102/146 intersection as indicated in Figures 1 and 2. The major roadways are 2 lane state highways predominantly classified as urban collectors and rural major collectors. These are Steere Farm Road (Rte 98) and Sherman Farm Road (Rte 98), Round Top Road (Rte 96), Wallum Lake Road (Rte 100), and Old Victory Highway. The Bronco's Highway (Rte 102) is a rural principal arterial and the Douglas Pike (Rte 7) from the intersection at the Bronco's Highway south to the North Smithfield Town line is a minor rural arterial. Buck Hill Road is a rural major collector. Tarkiln Road, Cooper Road, and portions of Lapham Farm Road and Spring Lake Road are rural minor collectors.

For the Pascoag-Harrisville urban area, Wallum Lake Road (Rte 100) is a minor arterial; Route 107 from Pascoag to the Bronco's Highway and Route 100 (South Main Street) from Pascoag to Chepachet are principal arterials connecting links of rural principal arterials. Reservoir Road is a minor arterial.

Annual 24-hour average daily traffic data furnished by RIDOT for 2001 (<http://www.dot.state.ri.us/WebMaps/maps/sm02.pdf>) confirms that the principal directions of travel are toward Glocester and North Smithfield. A total of 12,800 trips per day were recorded on the Bronco's Highway between the intersection at Route 107 and North Smithfield, 7,800 trips per day were recorded between the intersection of Route 107 and the village of Chepachet in Glocester, and 6,200 trips per day were recorded between Pascoag and Chepachet (Map 1). This compares with only 500 trips

per day at the Connecticut State Line on Buck Hill Road and a total of 2,300 trips per day recorded at all three highways to Massachusetts (Wallum Lake Road, Round Top Road, and Sherman Road). East Avenue (Rt. 107) carries 10,100 trips between Harrisville and Bronco's Highway.

The Town is serviced by the Rhode Island Public Transit Authority with Route 9 from Providence at Kennedy Plaza to Harrisville and Pascoag on to Bridgeton on Route 100. There are no rail or airport facilities in the Town.

The Citizen Survey conducted in May, 1990 by the Comprehensive Plan Committee and Albert Veri & Associates, Inc. found that 15 percent of the town's residents have, second only to taxes, a high level of dissatisfaction with Burrillville's roads. Fifty three percent of those surveyed characterized street and road maintenance as below average, and seventy percent favored spending funds for sidewalk improvements.

Harrisville residents had the highest rate of response and dislike for road maintenance. A survey of the Department of Public Works conducted for the Comprehensive Plan Committee revealed that the DPW concurs with the need for sidewalk repairs. The Public Works Department is responsible for athletic field maintenance as well as road, bridge and drainage maintenance, and it cited the need for staff to meet the increased demand for services. One problem highlighted by the Department of Public Works is the new residential developments being constructed with access from unimproved Town roads. This increases pressure on the Department to maintain unimproved roads.

Roadway Network

The Town's population centers were born as village clusters around the mill complexes that developed on the principal waterways during the industrial revolution and subsequent decades. Today's road system connecting these village centers has been inherited from the earliest period of development. As a result the Town's highway network does not provide a cohesive network throughout the Town. There is an obvious lack of a defined east-west route through the community. As previously mentioned the roadway network evolved from the major village centers.

The Town Department of Public Works offers a street access permit application process for local roads only, otherwise the State PAP process prevails regarding state roads. Private streets may be created in the more rural parts of town through the Rural

Residential Compound Ordinance. All local and state highway interchanges and signalization proposals must be reviewed by the State Traffic Commission.

The following is a summary of the Town's roadway network:

- Bronco Highway (Route 102) is a northeasterly/southwesterly principal arterial. It provides access to Route 146, Route 7, and Route 44.
- Route 7 runs northwesterly/ southeasterly and provides a link to Route 295.
- Route 44 provides links to Route 295, the shopping district in Smithfield, and an alternative link into the City of Providence.
- Routes 96 and 98 run north/south and provide a connection from the center portion of Burrillville to Massachusetts. Route 98 also extends south to South Main Street/Route 100.
- Route 100 is located in the western portion of Town and runs north/south. It provides links to Route 44, Route 102, Wallum Lake Road and Buck Hill Road.

Three state highways (Route 100, 98 and 102) provide access to Burrillville from the south (Glocester) Route 100 branches off toward the northwest to Pascoag and Route 102 traverses in a northeasterly fashion to Mapleville. Route 100 eventually reached Massachusetts to the north and Route 102 junctions with Route 7 and continues into North Smithfield. Route 98 runs directly north to Harrisville and Graniteville and eventually crosses the Massachusetts State Line. Route 96, originates from the Graniteville area and also runs in a north-south fashion.

Although, the north-south routes appear to service the town in an efficient manner, there is a lack of a primary east-west connecting route. Lapham Farm Road provides a link between Route 100 and Route 102, but is a minor local street. The east-west roadways in the vicinity of Harrisville also connect (to the Town Hall area) in a haphazard fashion. The east/west corridor through the Town is comprised of East Avenue, Central Avenue, Route 107 and Buck Hill Road. This corridor is the major east/west connector within the Town and supplies access to the major north/south roadways in Burrillville. East Avenue and Central Avenue are residential and do not provide adequate sidewalks for pedestrians

Additionally, the system of roadways does not consistently perform the functions they were intended to serve. Route 98, for example, runs from north to south, essentially bisecting the Town, it acts as a minor collector in the northern portion, a principal

arterial in the central portion and a collector in southern portion of the Town. This fragmentation or lack of consistency in terms of roadway character and function is familiar to many of the thoroughfares in Burrillville.

Summary

The historical purpose of the Transportation Network in the Town of Burrillville has been to connect the five villages of the Town together. Implemented over many years, these connections have been established, however, they do not currently provide an efficient north/south and east/west highway network throughout the Town. However, the north/south routes are the most effective because they provide an alternative means of access in the event of a roadway incident. The current network does provide adequate connections to the major highways, such as Route 146, Route 295 and Route 395 and surrounding cities of Providence, Worcester, MA, and Hartford, CT.

Based on the information provided above a new east/west alignment should be evaluated that would provide a link between the major north-south highways. An ideal location would be from the intersection of Central Avenue/Route 102 to Route 100 in Pascoag. This connection could also be extended to the west toward Connecticut. Another option would be to connect Route 7 and Route 100 along a route north of Graniteville. This alignment would essentially run parallel to Whipple Road and East Avenue.

The implementation of the roadway alignments discussed above would require a detailed environmental review to determine the feasibility of such construction. Impacts to the community in terms of existing residential developments and commercial/industrial uses would also require substantial consideration. If the Town desires to pursue such a roadway, they should start acquiring the necessary right-of-way to improve the possibility of Transportation Improvement Program (TIP) consideration.

VI.2 Roads and Highways

Functional classification is the process of grouping streets and highways according to the character of their intended use. The basis of the system is the relationship between the roads and the functions they serve which generally are grouped into two fundamental services: a) access to property, and, b) travel mobility. Most roads perform in varying degrees each of these services and it is the combination of these services that determine which of the following type of roads they are classified as:

- (a) Local road - emphasizes access to property
- (b) Collector road - offers a balance between property access and travel mobility
- (c) Arterial - emphasizes a high level of mobility for through movements

The classification is also based on the type of area served, based on the U.S. Bureau of the census definition, whether it is an urban area, a small urban area or a rural area, see RIDOT Functional Classification Map, <http://www.dot.state.ri.us/WebMaps/maps/Functionalmmap.pdf>. The rules governing the federal aid highway classification system require that the urban area boundary must smooth out boundary irregularities, encompass fringe areas of residential, commercial, industrial, national defense, and transportation significance; include major highway interchanges where logical; and consider transit service areas. This system of classification is used by the state in developing long-range transportation plans and in determining federal aid funding categories. It is also used to determine jurisdiction for highway maintenance responsibility. Classification and eligibility under this system does not automatically mean that federal funds are available for improvements.

The Town of Burrillville is primarily rural, located outside the urban area boundary. The exception to this is the inclusion of the villages of Harrisville and Pascoag and their environs within the small urban area boundary. This coincides with 1980 census tract 129, modified to reflect the smoothing out of irregularities in accordance with federal aid highway classification requirements, noted above. Local roads, those subject to municipal jurisdiction, can be divided into sub classes based upon expected traffic flow and the nature of the area in which they are located. The Town recognizes 3 levels of traffic generation that developed by fewer than 6 dwellings. The Town also recognizes 4 different designations or neighborhood types: Village Residential, Suburban Residential, Farming Residential and Industrial Developments.

The Rhode Island 2005 – 2015 Highway Functional Classification Map dated April, 2003 may be viewed at: <http://www.planning.state.ri.us/transportation/pdf/Func.pdf> The map depicts a functional classification breakdown of the roads in Burrillville. The relationship of functional classification to federal funding is shown in Table VI-2.

**Table VI-2
Relationship of Functional Classification to the Federal-Aid System**

Functional Classification	Federal-Aid Funding Category
URBAN AREA	
Interstate	Interstate
Principal Arterial-Connecting Link	Primary
Principal Arterial-Non-Connecting Link	Urban
Minor Arterial	Urban
Collector	Urban
RURAL AREA	
Interstate	Interstate
Principal Arterial	Primary
Minor Arterial	Primary
Major Collector	Secondary

Source: Rhode Island Division of Planning, Technical Paper Number 130, "Highway Functional Classification System for the State of Rhode Island, 1995-2005."

VI.3 State Scheduled Road Improvements

The Transportation Improvement Plan (TIP) is a multi-year program of highway (including bicycle and pedestrian), transit (bus, rail, and water), airport, and freight rail projects. The State Planning Council, acting as the single statewide Metropolitan Planning Organization (MPO) in Rhode Island adopts it every two years. Once a project is listed in the first two years (biennial element of the TIP), it is eligible to receive federal funding. Listing in the third or fourth year implies a priority and schedule for implementation but is not a reservation of funds.

The TIP is developed according to the State Planning Council’s Rule IX, “Transportation Planning and Public Involvement Procedures,” adopted in November 1994. The Statewide Planning staff prepares the TIP in cooperation with the Rhode Island Department Transportation (RIDOT) and the Rhode Island Public Transit Authority (RIPTA), with the participation of interested cities and towns.

Projects in the TIP are scheduled in accordance with their priority and their phase of development, whether it is preliminary engineering/ design, right-of-way acquisition, or construction.

Types of Projects - There are nine types of projects scheduled by the TIP.

1. Interstate - These connect principal metropolitan areas;
2. Interstate 4R - These maintain the existing interstate system;
3. Primary - These are to develop a system of main roads for interstate, statewide, and regional travel, consisting of rural arterial routes and their extension into and through urban areas. Activities eligible for federal funding in this category include the construction of bus lanes, highway traffic control devices, bus passenger loading areas and facilities, fringe and transportation corridor parking to serve mass transportation passengers, and programs for roadway resurfacing, restoration and rehabilitation (3R).
4. Urban - These are for the improvement of service to major centers of activities in urbanized areas. Activities that are eligible for funding typically are projects aimed at obtaining maximum highway efficiency through traffic engineering such as minor roadway widening, modernized traffic signalization, traffic channelization, and bus loading areas and facilities.
5. Rural Secondary - This category of funding is to assist state and local governments improve federal-aid secondary systems. Eligible activities include design, right-of-way acquisition and construction, and a portion of this funding category must be expended on 3R projects.
6. Highway Safety - This is for improving driver, vehicle and roadway safety. It includes driver education and motor vehicle inspection, and provides for design, construction and maintenance improvements which include activities such as pavement marking, elimination of roadside obstacles and high hazard and road/rail crossing elimination.
7. Bridge Replacement - This program is for the replacement or rehabilitation of important highway bridges on any system, and at least 15 percent of the total expended statewide must be for "off system" bridges.
8. Urban Mass Transportation - This category provides capital and operating cost assistance for improvements to urban mass transportation systems. Eligible capital costs include buses, mini buses, garages, equipment and special equipment for elderly and handicapped bus transportation.
9. Airport Improvement - This program provides for planning, design, acquisition, and construction of airfield facilities such as runways, taxiways, lighting, public terminals, and safety equipment (e.g., fire trucks and garages). The funding is earmarked for different types of airports and programs, including noise abatement and noise mitigation for schools and residences.

TIP Projects Scheduled for the Town of Burrillville - The TIP projects scheduled for the Town of Burrillville are identified in Table VI-3.

Table VI-3
Transportation Improvement Program
2003 to 2008 Town of Burrillville

<u><i>Pavement Management Program</i></u>	<u><i>Year</i></u>
Route 107 (from Rt. 98 to Rt. 100)	2005
<u><i>Enhancement Program (T21 STP Funds)</i></u>	
Rt. 107 Streetscape	2006
Burrillville Bike Route Signage	2000
<u><i>Bridge Program</i></u>	
Granite Mill Bridge #308	2008
Warner Bridge #355	2005

Source: <http://www.planning.state.ri.us/tip/default.htm> July 16, 2004

There are no railway crossing, commuter parking or airport improvement programs scheduled in the TIP for the Town of Burrillville, however, a regionalized application for bike paths was submitted on behalf of Burrillville, N. Smithfield and Glocester in February, 2002. In addition, five projects that were submitted to the State Planning Council for their consideration in the 2001-2002 TIP. These projects are presented below in order of priority as determined by the Town:

1. Tarkiln Road Bridge – Replacement (complete)
2. Mowry Road – Intersection Realignment
3. Warner Lane Bridge - Replacement
4. Gazza Road Bridge – Superstructure Replacement
5. Clear River Industrial Park Access Road – New Roadway Alignment (abandoned due to Stillwater Heights Development)

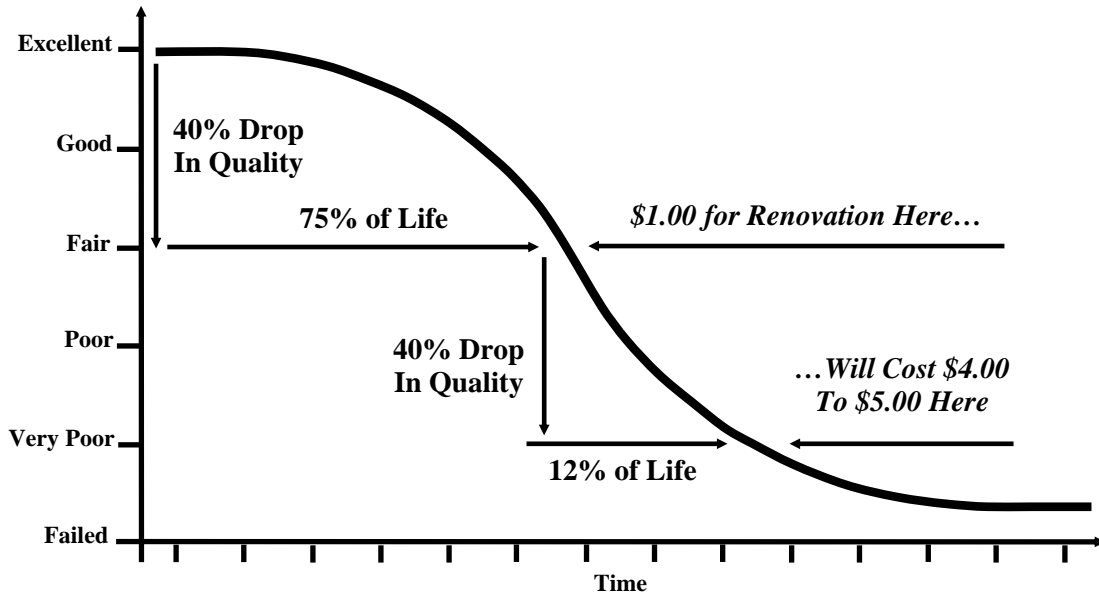
Following evaluation and ranking of all proposals by the Transportation Advisory Committee (TAC), a draft TIP will be released. The two top rated bridge projects (Tarkiln/Gazza) were on the TIP in the mid 1990's and preliminary designs plans had been completed by RIDOT. The projects have since been removed from the TIP and no further design has been completed. Mowry Road has been designed and submitted to RIDEM for permitting approval. No design work has been completed for Gazza Road Bridge. The Town has committed funding to cover design costs for the bridge projects and conceptual design of the Clear River project. The Town has also received grant money to assist in the master planning of the aforementioned project.

VI.4 Road Surface Management System

Burrillville's Department of Public Works has implemented a roadway management system (RMS) for its Towns roadways. This comprehensive road study was undertaken in order to develop an extensive roadway database describing and evaluating actual roadway infrastructure conditions in Burrillville and to better understand current and future roadway conditions at various funding levels. Before describing the RMS study scope and findings, an introduction to pavement management concepts and theory is offered. The product Burrillville selected for developing their system is called the Road Surface Management System (RSMS) developed by the University of New Hampshire Technology Transfer Center. The RSMS is directed toward achieving the best value for public funds. It is expected to provide and generate smooth, safe, economical road surfaces.

The development of a roadway management system is a formalized approach road officials use to cost effectively allocate road budgets. The theory of pavement management is based on predicting roadway deterioration. The following figure dramatically illustrates the key concept of making timely maintenance repairs, thereby averting the need for far more expensive and extensive structural repairs. The goal is to save money in both the short and long run by developing a road repair program that maximizes expenditures while meeting the overall road program goals set by community decision makers.

Pavement Deterioration Curve



The procedure is to collect, organize, and maintain a complete roadway database which describes a particular road system. The RSMS builds on the basic system by adding data on drainage, sidewalks, traffic and other roadway elements.

In either case the resultant RSMS database is used as a repository of historical and descriptive data on a community's road network. Data generated by the roadway database provides useful input for reporting on and evaluating current roadway conditions, forecasting costs for different maintenance and repair treatments, and developing annual and long range budgets and repair plans.

The system provides Burrillville with an opportunity to synthesize pavement inventory and condition data with other descriptive information on a host of related roadway elements such as drainage, and sidewalks.

The ongoing effort to establish a roadway management program is Burrillville's recognition that the Town has a major investment in its **95 mile** town/public road network. New construction and repairs to existing infrastructure are very costly, and prudent fiscal management suggests that it makes economic sense for a community to protect that investment over time for current and future residents.

RSMS Methodology

Starting in July, 1999 the Town collected two primary categories of data in Burrillville: roadway network inventory data describing roadway lengths, widths, segment start and end points, etc. (items that seldom change), and pavement condition data, providing a snapshot description of roadway conditions on the day of the survey – the severity and extent of such specific pavement distresses as potholing, alligator cracking, rutting and longitudinal/transverse cracking. The inventory also included collecting data on drainage and sidewalks. The majority of the pavement distress elements mentioned above are caused by inadequate drainage (including facilities), traffic volume, or weak sub-grade. Some distresses, such as rutting are a result of inadequate compaction during construction or by sub-grade consolidation. Longitudinal/transverse cracking is typically caused by insufficient pavement thickness, overloads, shrinkage or weak subgrade.

Following data collection, entry, and verification, future pavement conditions were projected assuming varying maintenance/repair alterations and cost levels. The Town can refine these projections annually by reviewing repair type unit costs and by updating the roadway database as improvements are made. Since each road project will differ as to its specific improvement elements, major drainage improvements or the construction of new sidewalks would have to be specifically budgeted during project level pavement management evaluation and cost estimating.

Capabilities/Results Summary

Burrillville’s RSMS uses road inventory and roadway distress observations to develop an extensive database used for subsequent analysis and report generation. A complex rating system is built into the software for evaluating field observations. A rating is developed which tallies roadway serviceability and establishes performance criteria. A value is derived by recording actual field conditions for a variety of roadway elements; pavement surface, rideability, drainage, traffic etc. Ultimately a Pavement Condition Index (PCI) value is established for determining pavement repair priorities for each roadway segment. Sidewalks were rated in a more general fashion – Good, Fair, Poor. The majority of the sidewalks fell into the fair or poor category indicating a need to replace or improve the structural condition of the sidewalk.

The PCI was generated for each public roadway segment in Burrillville using the distress data collected by the Town. PCI is measured on a scale of one hundred to zero,

with one hundred representing a pavement in excellent condition and zero describing a road in extremely poor condition.

Broad treatment category ranges were utilized to assist in assigning repair alternatives. These “Treatment Repair Bands” are nationally accepted methods used to group the calculated values into five major improvement bands. The goal is to budget sufficient funds for each road repair category for a particular roadway. The database structure provides the Town with the flexibility to revise repair strategies accordingly for a single segment or a multitude of roadways.

Broad Treatment Categories

Category	Description
Do Nothing	Segments in need of no maintenance
Routine Maintenance	Segments in need of routine maintenance (Crack Sealing/localized repair)
Preventive Maintenance	Segments in need of preventive maintenance (surface sealing/patching/crack sealing)
Structural Improvements	Segments in need of surface structural improvement/rehabilitation
Reconstruction	Segments in need of base improvement/reconstruction

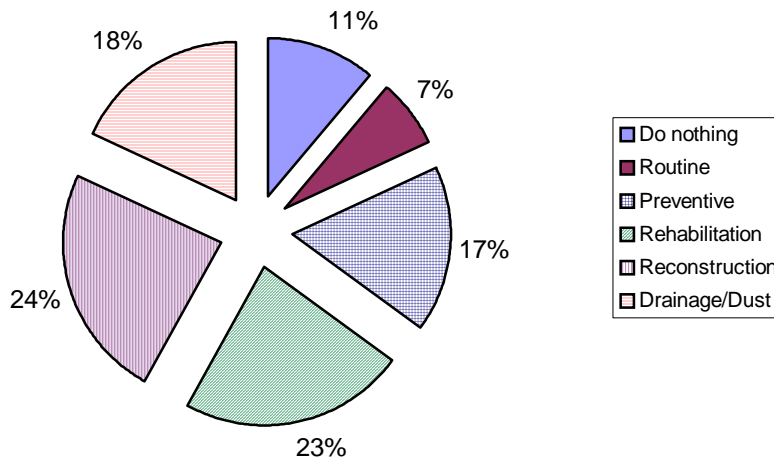
Repair alternatives utilized for this project, in relation to the above table, includes the following.

- **Do Nothing**
- **Crack Seal (Routine Maintenance)**
- **Stone Seal (Preventive Maintenance)**
- **Overlay (Preventive Maintenance/Rehabilitation)**
- **Resurface (Rehabilitation)**
- **Reconstruction**

These repair items/costs were generated in cooperation with the Town’s Public Works Director and BETA Engineering. As the pie chart on the following page indicates, the majority of the roadways fall into the, preventive maintenance, rehabilitation and drainage categories. The roadways that fall within the preventive maintenance category indicate that they are at or beyond the critical point on the pavement deterioration curve. Unless repairs are made to these roadways in the near future, they will be in need of far more expensive capital repairs. RSMS did calculate values (approximately 24% of the roadway) that indicate the need for structural improvements or reconstruction. These roadways were assigned a specific repair alternative, as outlined above, based upon the condition inventory completed and the DPW Director’s knowledge of the roadway itself. These type of roadways should be further evaluated by the Town prior to establishing a

long-term budget. These improvement alternatives should be reviewed periodically to determine if they represent the most cost-effective procedures.

*Percent of Network Length
By Repair Strategy*



The Town now has access to a roadway information database, which is based on road condition data and descriptive information collected in 1999. The Town is urged to fully utilize the considerable volume of data that exists. The Burrillville roadway database gives Town decision makers a picture of existing roadway infrastructure conditions, a dollar estimate to protect those pavements already in good condition, and a recommended capital improvement plan strategy to meet the Town's goals.

System Maintenance

To best manage and update the Burrillville roadway database, the following practices are suggested:

- **Post all annual road improvements into the RSMS. Both the pavement condition ratings and the repair history information should be entered.**
- **Add any new roadway network descriptions to the database as soon as the Town accepts the roadways. Pavement and related data can be added as it becomes available.**
- **Update repair type unit costs annually to provide accurate work plan reports.**
- **Assign one or more individuals with the responsibility of overseeing system upkeep. This individual should be responsible for requesting annual pavement condition survey updates.**

- **Undertake annual street surveys on at least 25% of the system. Roadways that have been repaired within the last season, or roadways that fell into the reconstruct category and have not been repaired, can be screened from the update mileage total.**
- **Review developments in pavement technology that might offer a more cost effective alternative to pavement maintenance or rehabilitation over the pavement's life cycle.**
- **Implement a sound Department quality control/assurance program with particular focus on major pay items.**

The roadway database should serve as a valuable tool to the Town and to community decision makers in their progressive approach to managing the Burrillville roadway infrastructure. Although maintenance/repair alternatives are provided, this report is a planning level tool and is intended to provide the foundation for managing the Town's roadway resources by combining local knowledge with professional engineering input.

VI.5 Storm Water Drainage System

Based on information provided by Town's Department of Public Works (DPW) Director, the Town's storm water system is operating in an efficient manner. Only a small percentage of the Town consists of a closed drainage system. These systems being located primarily in major villages of town; Pascoag, Harrisville and Mapleville. Each of the villages contain their own isolated system that discharges to localized streams and eventually to Clear River.

The DPW has not reported any major problems with the drainage systems currently in place. The only issues are with respect to providing adequate routine maintenance. This is primarily due to a lack of consistent staffing levels at the DPW. However, the DPW did indicate that the systems would operate more efficiently if routine maintenance were completed on a more regular basis. The Town recently crafted a detailed Stormwater Management Plan, March 2004, which was adopted by RIDEM. The SWMP shall be incorporated as part of this chapter by reference and may be reviewed at the Burrillville Planning Department.

One of the elements gathered as part of the roadway condition analysis (Road Surface Management System) completed by the Town was drainage deficiencies. Poor drainage contributes to pavement distress, whether it be puddeling or roadside flooding. Specific

drainage problem areas, not associated with the storm water system can be queried from the Road Surface Management System database.

VI.6 Bridges/Culverts/Dams

The Town of Burrillville owns and maintains the following bridges. These are identified in Table VI-4.

**Table VI-4
Town of Burrillville
Locally Maintained Bridges**

Centennial Street	Oak Valley (106)
Gazza Road (353)	Potter Bridgeway (315)
Grove Street	Railroad Avenue (354)
Laurel Ridge (222)	Sayles Avenue (512)
Mapleville (337)	Tarkiln Road (356)
North Road (412)	Warner Lane (355)

Source: Town of Burrillville, Department of Public Works/RIDOT
(XXX) RIDOT Bridge No.

During July 1999, BETA Engineering conducted bridge, culvert, and dam field review services to assist in the development of a town-wide transportation improvement program. The structures included in the program were identified by the Town’s DPW for evaluation as town-owned bridges and major culverts. Mapleville Bridge was not included in the inspection program considering improvements were being developed under a separate project. The field reviews were cursory visual assessments of major structural components for the purpose of identifying their size, type and general condition in sufficient detail to prioritize any required rehabilitation and develop budgetary construction costs.

The twenty-five structures reviewed (10 bridges, 10 culverts, and 5 dams), as shown in on the following page, ranged in condition from poor to excellent. All structures were reviewed using a subjective rating system of the major structural components including foundation, framing deck and railing elements. Each feature is rated on a 1 – 5 scale, and an average rating score is given to each bridge, culvert, or dam. In some cases immediate attention is required to ensure the safety of the general public. In other cases,

further investigation is required to properly determine the amount of structural rehabilitation required.

A detailed report was prepared that summarizes the details of the field reviews, and the recommendations for each structure. Complete reports are available at Burrillville's Department of Public Works.

Bridges					
Priority Ranking	Structure Name	Condition Rating (1-5)	Construction Cost	Design Cost¹	Permitting Cost¹
1	Gazza Road ²	3.00	\$270,000	\$40,000	\$5,000
2	Warner Lane ²	2.67	\$380,000	\$45,000	\$5,000
3	Tarkiln Road ⁴	5			
4	Laurel Ridge Bridge	2.14	\$40,000	\$5,000	\$500
5	Grove Street	3.43	\$70,000	\$6,000	\$500
6	North Road	3.33	\$40,000	\$5,000	\$500
7	Centennial Street ⁴	5			
8	Railroad Avenue	3.83	\$40,000	\$5,000	\$500
9	Sayles Avenue	4.57	\$20,000	\$2,500	\$500
10	Potter Bridgeway	4.50	\$2500	\$800	\$500
		Total	\$1,272,500	\$159,300	\$18,500

Culverts					
Priority Ranking	Culvert Name	Condition Rating (1-5)	Construction Cost	Design Cost¹	Permitting Cost¹
1	Tarkiln Road ⁴	5			
2	Whipple Road	2.60	\$130,000	\$15,000	\$5,000
3	E. Wallum Lake Rd 2	3.17	\$50,000	\$5,000	\$5,000
4	E. Wallum Lake Rd 1	3.20	\$20,000	\$3,000	\$5,000
5	Black Hut Road	3.33	\$20,000	\$3,000	\$5,000
6	Nichols Road	3.40	\$20,000	\$3,000	\$5,000
7	Centennial Street 1 ⁴	5			
8	Colwell Road	3.60	\$20,000	\$3,000	\$5,000
9	Spring Lake Rd.	3.83	\$30,000	\$3,000	\$5,000
10	Centennial Street 2 ⁴	5			
		Total	\$478,500	\$53,800	\$45,500

Dams					
Priority Ranking	Dam Name	Condition Rating (1-5)	Construction Cost	Design Cost¹	Permitting Cost¹
1	Tarkiln Dam 2 ³	2.67	\$40,000	\$5,000	\$2,500
2	Tarkiln Dam 1 ³	3.00	\$30,000	\$5,000	\$2,500
3	White Mill Park ³	3.00	\$2,500	\$1,200	\$500
4	Mill Pond Dam ³	3.80	\$2,500	\$1,200	\$500
5	Zam Dam ³	4.00	\$3,000	\$1,200	\$500
		Total	\$78,000	\$13,600	\$6,500

<i>Total Improvement Cost</i>	\$1,829,000	\$226,700	\$70,500
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Notes:

1. Estimated design and permitting costs are for budgetary purposes only. Projects designed in combination with other projects can reduce the overall design and permitting cost than if done individually.
2. Funding for construction could be explored with the Rhode Island Department of Transportation.
3. Funding for construction could be explored with the Rhode Island Department of Environmental Management.
4. Improvements completed by DPW

The table above lists the reviewed structures by type, from highest to lowest priority. The estimated rehabilitation construction cost is noted for each structure.

The following provides a brief description of the top two rated bridges; Gazza Road and Warner Lane in terms of requiring improvements. Both were found to have approaches that are not properly protected by guardrails. Load limit signs must be placed on each structure, and the railings on all three bridges are substandard.

The condition of Gazza Road Bridge is such that a 6-ton load limit has been placed on it. Short-term repairs of the bridge are feasible but the structure should be replaced.

The Warner Lane Bridge is very narrow and potentially hazardous, however, it carries low traffic volume. Its condition is sufficiently good to warrant load ratings of 16 tons for 2 and 3 axle trucks and 27 tons for semi-trailer vehicles. If maintenance of the bridge continues over the next 5 years, another thorough inspection of the structure will not be required until 2006.

There are twenty-seven (27) state numbered bridges in Burrillville. All bridges in Rhode Island greater than 20 feet in lengths are assigned a number by the State Department of Transportation for the purposes of inspection. These bridges may not be state owned but they are inspected by the state. It is possible to have a bridge constructed and owned by the state but maintained by the local municipality. A bridge within the state highway line is state maintained. The listing of all state numbered bridges in Burrillville is shown in Table VI-5.

The State Department of Transportation has developed a Comprehensive Bridge Improvement Plan for the State's 705 bridges which is designed to assure that the bridges are properly maintained and those most in need of repair or replacement are

assigned the highest priority for construction. The Plan utilizes five parameters for the priority assignments:

- (1) structural adequacy;
- (2) type of bridge;
- (3) bridge posting;
- (4) average daily traffic; and
- (5) roadway classification

These parameters are weighted by the State Classification System so that those bridges that have the highest need of structural repairs, are the most likely to have a severe failure, are posted with the lowest capacity ratings, limiting their ability to provide for safe passage of emergency vehicles, school buses and the like, are heavily traveled and are highest in the Roadway Classification System are ranked highest in accordance with their need for work.

In accordance with this plan, one of the 27 bridges shown in Table VI-5 are scheduled for improvements by RIDOT.

Table VI-5
State Numbered Bridges

No.	Name	Route	Crossing
310	Burrill. World War Me.	Chapel Street	Pascoag River
353*	Gazza Road	Gazza Road	Brook
112	Glendale	Woon.-Chepachet VH	Branch River
308+	Granite Mill	Chapel Street	Pascoag River
309+	Granite Mill - Canal	Chapel Street	Mill Canal
306	Harrisville Mill	Sweets Hill Road	Pascoag River
672	Joslin Road	Route 102	Over Branch R. & Joslin Road
671	Lapham	Route 102	Over School St.
222*	Laurel Ridge	Laurel Ridge Road	Clear River
170	Leland	Wallum Lake Rd.	Leland Brook
673	Mohegan	Route 102	Branch River
337*+	Mapleville	Main Street	Chapachet River
110	Nasonville Conc. Arch	Woon.-Chepachet VH	Mill Canal
111	Nasonville Stone Arch	Woon.-Chepachet VH	Branch River
412*	North Road	North Road	Clear River
106*	Oak Valley	Douglas Pike	Fork of Branch River
105	Oakland	Victory Highway	Pascoag River
198	Pascoag	Wallum Lake Road	Pascoag River
670	Pascoag River	Route 102	Pascoag River
354	Railroad Ave.	Railroad Avenue	Stream
378	Round Top	Douglas Road	Pascoag River
512*	Sayles Ave.	Sayles Ave.	Brook
306	Harrisville	Route 107 (East Ave)	Clear River
307+	Shippee	Sherman Road	Pascoag River

356*	Tarkiln Road	Tarkiln Road	Tarkiln Brook
394	Unnamed Culvert	Buck Hill Road	Robbins Brook
102	Wallum Pond	Wallum Lake Road	Clear River
355*+	Warner Lane	Warner Lane	Brook

+ RIDOT currently developing design for replacement.
* Not State maintained.

It should also be noted that the Route 100 bridge located in Pascoag, also known as the CVS Bridge, is part of RIDOT's latest Statewide Bridge Improvement Program and has been selected for replacement in The Route 7/Victory Highway Bridge is no longer scheduled for replacement, it has been determined to be structurally sound and the weight posting has been recently removed.

Source: Rhode Island Department of Transportation, Bridge Engineering Section, February 2000.

VI.7 Motor Vehicle Registrations

The number of motor vehicles registered in the Town has steadily increased in recent years. The data in Table VI-6 profiles the number of vehicles for two sample years 1995 and 1999, the most recent year available. The total number of motor vehicle registrations in 1999 for the Town was 17,089, compared to 15,359 recorded in 1995. This represents an increase of approximately 10% since 1995, which is reasonable considering the State Division of Planning Travel Demand Model forecasts a growth variable of approximately 2% per year for Burrillville.

**Table VI-6
Town of Burrillville
Motor Vehicle License Plate Classification**

License Type	1995	1999
Private Pass.	8799	9792
Commercial	2614	2099
Trailer	1041	1189
Motorcycle	480	493
Public Service	2	5
Camper	275	265
Suburban	10	16
School Bus	46	26
Town	38	35
Police	10	22
Fire	43	59
House of Rep.	1	1
Radio Operator	11	14
Antiques	35	52
Veterans	6	4
Farm	25	32
New Car Dealer	0	1
Used Car Dealer	23	20
In-transit	9	11
Transporter	3	4

Bailee	0	2
P.O.W.	2	2
Purple Heart	9	8
War Veteran	221	212
National Guard	31	31
Combination Plate	138	798
Apportioned	0	79
Title Only	1486	1816
Special	1	1
Totals	15359	17089

Source: Rhode Island Division of Motor Vehicles.

VI.8 Accidents

Traffic accident data is recorded by the state in the following categories: Total accidents, fatal accidents, accidents resulting in injuries, accidents resulting in property damage, total fatalities and total injuries. Data shown in Table VI-7 compares Burrillville to the state for the 3 most recent years.

**Table VI-7
Town of Burrillville
Accident Data 1995-1998**

TOTAL ACCIDENTS	2001	2002	2003
Burrillville	360	406	404
State	47,042	50,909	54,946
Percent of State	.007	.007	.007
FATAL ACCIDENTS			
Burrillville	2	0	0
State	78	68	96
Percent of State	2.5	0	0
INJURY ACCIDENTS			
Burrillville	102	107	86
State	10,101	10,918	10,330
Percent of State	1.0	1.0	.8
PROPERTY DAMAGE ACCIDENTS			
Burrillville	256	299	318
State	36,863	39,923	44,520
Percent of State	7.0	7.4	7.4
FATALITIES			
Burrillville	2	0	0
State	81	71	104
Percent of State	2.4	0	0
INJURIES			
Burrillville	163	152	121
State	14,542	15,699	14,799
Percent of State	1.1	1.0	.8

Source: Rhode Island Department of Transportation, Accident Report Data, July 16, 2004

Accident rates for the Town of Burrillville are at or below what might be expected based on a comparison of the Town's percentage of motor vehicles, accidents, injuries, and fatalities compared to the balance of the state. The number of accidents in Town has increased overall since 2001, however, decreased slightly since 2002 which reported 406 total accidents as compared to 404 in 2003. Locations with a noticeable frequency of accidents, based on Rhode Island Department of Transportation data are shown on Map 2. These locations do not necessarily have a high frequency of accidents, which is the hallmark of a problem area. The level of analysis required to determine if high frequencies exist is reserved for special studies and is outside the scope of the comprehensive plan. These locations are however, areas with high numbers of accidents in the most recent 3 years available (2001-2003) and probably represent dangerous locations.

Following a review of the most current accident data provided by the Department of Transportation, there were no obvious trends displayed in the data. There are many accidents dispersed throughout the more congested travel ways involving side streets. This is an indication of roadside distractions, curbside parking which obstructs visibility, possibly narrow travel lanes, or excessive speeds.

The Citizen Advisory Committee for the comprehensive planning process expressed the need for improved sidewalks in the Town. This desire is also reflected in the Citizen's Survey results. Generally, there is a lack of sidewalks forcing pedestrians to walk along the shoulder of the road in certain areas of town. This is seen by the community as a drawback to businesses, in the Pascoag area in particular. In relation to this, the Town has made a concerted effort to improve pedestrian conditions, with particular emphasis on compatibility with the American Disabilities Act (ADA). This is being accomplished as part of the townwide Pavement Management Program and on-going sidewalk projects.

Citizens were asked during the May 1990 survey to identify specific street and highway locations that they found to be dangerous. The most commonly identified locations are presented in Table VI-8. Most of the locations correspond to those identified through the review of Rhode Island Department of Transportation Accident Data.

**Table VI-8
Town of Burrillville
Commonly Identified Highway Locations Considered Dangerous**

- Route 102/Central Avenue
- Route 102/Route 7
- Main Street/East Avenue
- Route 107/North Main Street
- Hill Street/Round Top Road
- Route 102, in general
- Union Avenue/Emerson Street
- Lapham Farm Road/Steere Farm Road
- Route 100/Main Street
- Inman Street/Route 102
- East Avenue, in general
- Route 102/Entrance to the new middle school
- Downtown Pascoag, in general

Source: Citizen's Advisory Committee, Albert Veri & Associates, Inc.
Citizen Survey, May 1990 and RIDOT data (1995-1997)

VI.9 Town Scheduled Improvements

There are approximately 95 miles of local roads maintained by the Town Department of Public Works. The Town DPW budget for road maintenance is limited in scope and amount of available funding. There is a 5-year town transportation improvement plan and a preliminary pavement management program. The Town DPW has a computer and software for the development of a pavement management program. However, lack of funding has prevented the assignment of the necessary personnel to update the data for such a program. This type of program is considered valuable to the Town and it has been implemented in other communities. Estimates furnished by the University of Rhode Island suggest that an effective system may save four to five times the normal pavement renovation costs.

Pavement management encompasses the planning, design, construction, maintenance, evaluation, and rehabilitation of pavement. A pavement management system is the process of evaluating pavement conditions, assigning priorities for action and programming maintenance and improvements to keep the pavement serviceable.

The Department of Public Works has a Capital Improvement Program that calls for \$4,090,000 in road, bridge and drainage improvements over the next five years. These are as follows:

	Fiscal Year				
Category	2005	2006	2007	2008	2009
Bridge/Culvert	\$200(k)	\$100(k)			
Replacement		\$30(k)	\$30(k)	\$30(k)	\$30(k)
Road Paving	\$1,100,000	\$600(k)	\$700(k)	\$700(k)	\$600(k)

Source: DPW, July 16, 2004

This budget has been established without the benefit of the pavement management program. It is based on the personal knowledge and site inspections of the town's roadways and drainage facilities by the Director of Public Works and the Town Planner.

VI.10 Public Transportation

The Town of Burrillville is serviced by the Rhode Island Public Transit Authority For RIPTA Bus Route maps, see: <http://www.ripta.com/schedules/view.php>. Service is Monday through Friday on the Wallum Lake-Pascoag Route between Zambarano Hospital and Kennedy Plaza in Downtown Providence. Stops in Burrillville are located in Bridgeton, Pascoag, Harrisville and Mapleville. Total trip time is approximately 40 minutes from Zambarano Hospital to Kennedy Plaza. Other stops along the route are at Chepachet, Harmony, Greenville, the Apple Valley Mall, Graniteville, and Centerdale. The buses are equipped with wheelchair lifts on two-thirds of the trips.

For information regarding fare schedules, see: <http://www.ripta.com/schedules/fares.php>

Para-Transit Service - Para-Transit service can be a demand-response system or a scheduled service. The Town is served by one senior citizen's van that is dispatched through the Department of Public Works. It operates on a first come, first served basis and is used for medical and shopping trips and for transportation to meetings and recreational activities. The service does not provide handicapped access.

**Table VI-9
Town of Burrillville
Para-Transit Service Data 2000 - 2005**

	2000	2001	2002	2003	2004
Citizens Served	1,067	1,121	1,089	1,207	1,090
Total Mileage	13,860	13,230	14,035	14,700	15,050
Total Trips	396	378	401	420	430
Medical	298	276	301	319	331
Meetings	0	0	0	0	0
Shopping/ Recreational	98	102	100	101	99

As shown in Table VI-9, demand for the service has ranged from a low of 396 trips in 2000 to a high of 430 trips in 2004. The annual average for the period 2000 through 2004 has been 405 trips. Nearly 75 percent of the trips are for medical purposes.

VI.11 Trails & Pedestrian Walkways

There are 31.5 miles of trail system in Burrillville located in the State Park and Management areas. These are Buck Hill Management area, Nipmuc Trail, Black Hut Management area, George Washington Management area and Casimir Pulaski State Park. The State of Rhode Island Recreation Conservation and Open Space Inventory of June, 1989 identifies a 1.8 mile horse trail and hiking trail on the old abandoned rail right-of-way from Harrisville to Route 102. During the 1988 cycle of recreation, conservation, and open space grants, the Town applied for funding to develop the trail section from Harrisville to Route 102 and to acquire the section from Pascoag to Harrisville. The project scored high in the state review process but was not funded due to limited resources.

It is interesting to note that the 1966 comprehensive plan recommended that the railroad right-of-way be preserved as an historic trail for hiking and horseback riding. The Town will continue to work with the John H. Chafee Blackstone River Valley National Heritage Corridor Commission to partner, fund and design additional trails along the Town's abandoned rail road rights of way. Another 15 miles of trails are located in the Buck Hill Boy Scout Reservation.

VI.12 Municipal Parking

Municipal parking facilities are available at the Town offices on Harrisville Main Street and at the Pascoag Post Office. There are 18 spaces of municipal parking at the Post Office. There are 27 spaces at the Town Hall in Harrisville. Two of these spaces are for handicapped parking. The municipal spaces at the Town Hall are also used by persons going to the convenience store across the street and to the church next to the Town Hall. These uses are in occasional conflict.

The 1966 comprehensive plan focused on several aspects of the Town's circulation system which warranted improvement. Included in this was the identification of the need to expand parking opportunities in Pascoag from the 158 then available spaces to 500 spaces to provide better access to local businesses.

VI.13 Circulation Issues

The transportation system in the Town of Burrillville will be automobile dominated in the foreseeable future. The automobile is an integral part of the American culture; it is the principal means of mobility, and it is the mode that provides the traveler the greatest flexibility. Of all the transportation modes, it generally provides the highest degree of access to land uses and activities. Walking and bicycling also provide high levels of access and can access locations inaccessible by automobile, but these modes are limited by personal choice, habits, weather and time. These facts raise several issues for the Town.

Community sentiment, as expressed through the public attitude survey and workshops, values most highly the small town character, open space and the quiet peaceful nature of Burrillville. Residents, it appears, are supportive of the preservation of open space and farmland. As one workshop attendee stated, "we need to keep traffic down: it creates stress." Residents also favor industrial development to expand the town's tax base and to provide employment opportunities.

Traffic is a function of land use; the density of development and the types of land uses that occur can cause traffic congestion. If the density of development is too intense or the activities that occur are large traffic generators and the transportation systems that service the uses are in some way limited, then traffic congestion is likely.

Burrillville currently has a circulation or traffic flow problem that results from two facts. First, there is only one arterial roadway to convey traffic east to west (or west to east). This is the Route 100 and Route 107 roadway from Bridgeton to Pascoag to Harrisville to the Bronco's Highway (Map 3). Second, this roadway which measures approximately 5.5 miles from Eagle Peak Road to the Bronco's Highway, is characterized by its winding route, varying lane widths, lack of lighting, substandard curbing and drainage, lack of sidewalks, dangerous intersections, and land uses that vary from rural to urban. This route was identified in the 1966 Comprehensive Plan as needing improvements, but little has been accomplished over the last 25 years to effect the comprehensive improvements required for this roadway.

The Institute of Traffic Engineers (ITE), a national professional organization for traffic and transportation engineers, rates anticipated traffic generation according to major land use categories. Trip generation factors are typically taken from the “*Trip Generation Manual*” Informational Report 6th Edition, published by the ITE. The data provided in the ITE report is based on extensive traffic studies for various types of land uses (residential, commercial, industrial, etc.) This data has been found to be very reliable and provides a sound basis for estimating trip generation values.

Single-family detached housing generates 9.57 trips per average weekday, the highest generation rate for all forms of residential development. Burrillville can expect the majority of its residential growth to occur in the form of single-family units. In fact, under current zoning, Albert Veri & Associates, Inc. estimates that approximately 88 percent of the potential new residential development will occur as single-family units on land zoned R-20, R-40, F-2, F-5, and OS.

Office building development generates a range of traffic volumes depending upon the types of office. Medical offices generate 34.17 trips per 1,000 square feet of office space, the highest rate for office buildings. Research centers generate only 8.11 trips per 1,000 square feet.

Retail uses are heavy trip generators. The trip generation is typically 56.63 trips per 1,000 square feet, depending on the size of the retail center. Industrial uses are relatively low traffic generators. An industrial park will generate 6.97 trips per 1,000 square feet, as will light industrial use, while warehousing, manufacturing and heavy

industrial uses vary as trip generators. Heavy industry will generate as few as 1.50 trips per 1,000 square feet of manufacturing space.

Utilizing the ITE trip generation rates and the projected growth of residential, commercial and industrial development in Burrillville, an estimate can be made of the additional new traffic that will be experienced in the town's principal roadways. This estimate is based on existing zoning, and the build-out and population projections prepared for the Land Use Element of the Comprehensive Plan. (Please note the build-out figures utilized for this effort were completed by the University of Rhode Island in November 1999 and may not be included in the current Land Use Element.) No attempt has been made to distribute the trips on the state and local road network, although roadways that will be impacted are indicated in the analysis.

Based on the population projections through the year 2020, as well as the projected commercial and industrial space construction, trip estimates are formulated in Table VI-10 for the Town of Burrillville. The estimate provides a range of trips that may be generated because it is not possible to know what mix of activities will occur even within existing zoning.

The largest generator of new traffic will be continued residential growth in the Town, which will contribute 64 to 86 percent of all new traffic by the year 2020. Because 19 percent of the residential growth is expected in the Harrisville-Pascoag area, it can be assumed that a corresponding percentage of the traffic increase will also occur in that area, adding more than 1100 trips to the area's road network. Development north and west of Pascoag and Harrisville will increase traffic on Routes 100 and 107 as well as Routes 96 and 98. Even though Route 96 is in poor condition, it is not heavily traveled. It is also programmed for repair. Route 98 north of Harrisville is in good condition. The increased travel on these routes, however, will feed traffic into Harrisville, affecting Route 107 and probably Central Avenue. Route 98 south of Harrisville is a rural two-lane road, capable of handling additional traffic, but only at carefully controlled speeds because of narrow lanes and the obsolete horizontal and vertical alignments.

**Table VI-10
Town of Burrillville Build-Out Analysis:
Future Trip Estimates to Year 2020**

Residential	Trip Generation Rate	2000-2010 Additional Units	Additional Trips	2010-2020 Additional Units	Additional Trips	Total 1990-2010
Single Family ⁽¹⁾	9.57	580	5,551	580	5,551	11,102
Multi-Family ⁽²⁾	NA	0	0	0	0	0
Subtotal		580	5,551	580	5,551	11,102
Commercial	Trip Generation Rate	2000-2010 Additional Square Ft.	Additional Trips	2010-2020 Additional Square Ft.	Additional Trips	Total 1990-2010
C-1 ⁽³⁾	11.42-40.67	7,445	85-303	7,445	85- 303	170-606
C-2 ⁽⁴⁾	8.11-56.63	45,471	369-2,575	45,471	369-2,575	738-5,150
Subtotal		52,916	454-2,878	52,916	454-2,878	908-5,756
Industrial	Trip Generation Rate	2000-2010 Additional Square Ft.	Additional Trips	2010-2020 Additional Square Ft.	Additional Trips	Total 1990-2010
M-1 ⁽⁵⁾	6.97	14,619	102	14,619	102	204
M1-2 ⁽⁶⁾	1.50	60,563	91	60,563	91	182
Subtotal		75,182	193	75,182	193	386
TOTAL			6,198-8,622		6,198-8,622	12,396-17,244

Notes:

- 1) Additional Units were estimated using Burrillville Build Out Analysis and Single Family Building Permits information for the years 1994 through 1998. The Town of Burrillville supplied the Building Permit information.
- 2) The Burrillville Buildout Analysis assumed no multi-family dwellings due to the fact that no multi-family building permits have been issued since 1993.
- 3) Assumes a mix with a range between specialty retail at 40.67 trips per 1,000 square feet and an office park with 11.42 trips per 1,000 square feet.
- 4) Assumes a mix with a range between retail discount store at 56.63 trips per 1,000 square feet and a research center at 8.11 trips per 1,000 square feet.
- 5) Light industrial at 6.97 trips per 1,000 square feet.
- 6) Heavy industrial at 1.50 trips per 1,000 square feet.

The commercial and industrial development projected for the Town will not generate volumes of traffic similar to the residential growth. Most of this development can be expected to occur in the Bronco's Highway Corridor where there are large undeveloped tracts of land zoned for commercial and industrial use, which have or will eventually have access to municipal sewers.

Based on the data presented above, is apparent that the Town's roadway network could experience a significant increase in traffic over the next several decades. Taking this

into consideration, the Town should further evaluate improving the existing circulation network. Particular attention should be focused on east-west traffic flow through the center of Town. Lack of consistency in terms of roadway character and function associated with several thoroughfares in Town could also become an issue if build-out estimates are reached.

Another element to further expand related to impacts on the roadway related to increased traffic is the Road Surface Management System (RSMS). This system, as previously discussed, is currently being utilized by the Town to manage its roadway infrastructure. As traffic volumes increase in town, it is going to become more imperative that the RSMS database is updated on a regular basis in order to provide the most accurate and up-to-date depiction of pavement conditions on a townwide basis.

The relevance of this to the community perception that improvements are needed on the Route 100, Route 107 link through Pascoag and Harrisville is that as the decade progresses, the perception will be reinforced by increased traffic. It is not realistic to think that alternative modes of transportation can or will make a significant contribution to the reduction of traffic. As currently assessed, alternative modes have important but limited roles in the Town of Burrillville.

Public transportation on the Rhode Island Public Transit Authority route will continue to service the Town on a limited basis as long as there is a willingness by the state to subsidize the route. Operating subsidies for RIPTA have almost always been a fact of life and system-wide levels of ridership continue to decline. Since 1981, there has been a 40 percent decrease in the number of revenue passengers on the RIPTA system, even as the number of route miles has remained constant. The operating deficit for RIPTA increased from \$1.88 per mile in 1988 to \$2.02 per mile in 1989. These usage declines reflect national trends.

Para Transit is limited to the elderly and handicapped who meet eligibility requirements. This service is valuable to the client base, but it cannot draw riders from the non-eligible population. The level of service will probably be required to expand as the service population increases.

There is no rail service in Burrillville. Therefore, all bulk transportation requirements for business and industry in Town must be met through the use of trucks. However, old rail grades offer the potential for another form of transportation - the bicycle.

The bicycle has not developed nationally as a mode of transportation. But, there is a trend in Rhode Island and elsewhere in the nation for more bicycle use on dedicated bikeways such as the East Bay Bikeway in Barrington, Warren, Bristol and East Providence. The Rhode Island Department of Transportation plans to extend the East Bay Bikeway to the Providence "East Side" where it will connect with the Blackstone Valley Bikeway now in design. The Blackstone Valley Bikeway is part of the Blackstone Valley Heritage Corridor, a fact with significant implications for the Town of Burrillville.

RIDOT is also conducting bikeway studies in Narragansett, North Kingstown, South Kingstown, Block Island and Northwest Rhode Island including Glocester, North Smithfield and Burrillville. The primary focus of many of these facilities is former rail rights-of-way that have fallen into disuse as rail corridors. These rights-of-way are often ideal for dedicated bikeways, but they do not necessarily have to be the sole component of a bikeway.

Bikeways can be developed on local streets and rural roadways through the use of signing and striping. When this technique is coupled with the use of dedicated bikeways and utilized to connect recreation areas, parks, scenic areas, commercial centers and tourist attractions, a potentially very beneficial recreation and transportation feature can blossom in the community. It can also be a potent economic force for Burrillville.

Utilization of parts of the former rail grade for a bikeway and hiking trail, linked to the State management areas and park system in Burrillville and throughout the northwest region and the Blackstone Valley, could provide a stimulus to recreational based tourism. The ideas of promoting tourism, use of the State parks and management areas, and bikeway linkages to Blackstone Valley Heritage Park were expressed by citizens at the Advisory Committee level and by the Blackstone Valley Tourism Council, Inc. Map 4 indicates activity centers that could be linked by a bikeway-walkway network. Properly designed and managed, the network could be utilized on a year round basis, providing cross-country ski trails during the winter months. Development of a system of this type

is ongoing and feasibility studies are in the works to examine routes and the potential of dedicated bikeways.

Pedestrian movement in the villages of Pascoag and Harrisville can be facilitated through the installation of sidewalks. The lack of sidewalks in Town, especially along the heavily traveled routes, was often mentioned in the Advisory Committee meetings and public workshops. Greater freedom of movement and safety for pedestrians can reduce vehicular traffic in a neighborhood level and in the village centers.

Parking requirements appear to exceed need in Pascoag and Harrisville. The Town should conduct a specific parking needs study for Pascoag and Harrisville. These studies should consider planned developments in each village.

VI.14 Goals, Policies and Implementation Actions

VI. Circulation Goals	Policies	Implementation Actions
VI.1 To provide and maintain a safe, convenient and cost-effective transportation system.	VI.1.a Promote cooperative State/local efforts in transportation planning.	VI.1.a.1 Maintain and prioritize the list of projects for inclusion in the State Transportation Improvement Program (TIP). Seek letters of support for submitted projects.
		VI.1.a.2 Actively participate in planning of State and regional transportation systems. Hold a planning board public hearing to get public comment on TIP submission to State.
	VI.1.b Ensure that development minimizes dependence on motor vehicles, and promote development of alternative modes of transportation, such as bus, bicycle, and pedestrian access, including handicapped accessibility.	VI.1.b.1 Coordinate development of circulation systems with the planned development of the community.
	VI.1.c Endeavor to maintain the Town's rural qualities through participation in the State's roadway design process.	VI.1.c.1 Recognize the importance of Burrillville's outstanding historic manmade and natural landscape by protecting to the maximum extent possible shade trees, stone walls, historic buildings and structures, and natural features during the planning, design and construction of new and reconstructed roadways as well as the maintenance of existing roads. Amend the subdivision regulations to accomplish the same. COMPLETE
	VI.1.d Provide a well-maintained system of roads, bridges and highways linking residential areas, village centers and places of employment, and connecting to major arterials to facilitate daily commerce in the Town of Burrillville.	VI.1.d.1 Develop and implement a local TIP to evaluate and prioritize improvements of Town roadways, drainage systems, bridges, dams, culverts and sidewalks..

		VI.1.d.2 Coordinate the proposed installation of sewers and other underground utilities with local road improvements.
		VI.1.d.3 Place a high priority on improvements to Route 100 from Ross Road to Fountain Square (Route 107) in Pascoag, and to Route 107 from Fountain Square to Harrisville, emphasizing the need for sidewalks, street trees, improved lighting, improved drainage, signing, intersection alignments and signalization.
		VI.1.d.4 Conduct a needs assessment and feasibility study of utilizing Laurel Hill and Grove Streets as an alternative circulator through Pascoag.
		VI.1.d.6 Work with the Rhode Island Department of Transportation to achieve workable designs on TIP projects in keeping with the rural and village character of Town.
		VI.1.d.7 Consider utilization of street lighting fixtures in new residential, commercial and industrial development that complements the village character of Town.
		VI.1.d.8 Furnish the Department of Public Works with adequate equipment and personnel to maintain the roadways, for snow removal, street sweeping and drainage system maintenance. Require continued development of a ten-year transportation improvement programs for the Department of Public Works.
		VI.1.d.9 Work with the Department of Transportation to develop designs for the repair of the Harrisville Bridge over the Clear River that are faithful to the materials and texture of the existing stone arch bridge.

		VI.1.d.10 Require preparation of a Traffic Impact Analysis for development projects. These studies will form the components of a network of traffic information. Guidelines for a Traffic Impact Study are contained in Appendix VI-A.
	VI.1.e Provide a residential roadway network that relates to the ultimate density and character of the neighborhood	VI.1.e.1 Amend the subdivision regulations to accomplish the same. COMPLETE
	VI.1.f Maintain and where necessary expand the public transportation bus system servicing the Town of Burrillville.	VI.1.f.1 Encourage the Public Transit Authority to maintain and where possible expand the fixed route bus system servicing the Town of Burrillville.
		VI.1.f.2 Focus highest density development along existing fixed bus routes.
		VI.1.f.3 Maintain the townwide Para transit service to the elderly and handi-capped.
		VI.1.f.4 Review and evaluate system capacity and service eligibility requirements for Para transit service to ensure that levels of service are commensurate with needs.
	VI.1.g Increase the availability of trails, walkways and bikeways to promote alternative transportation modes to Town residents and to enhance the tourist and recreational values of the Town.	VI.1.g.1 Require the consideration of trails, walkways and bikeways in federal, state, local and private development projects. Include townwide bicycle facility development in requests to the RIDOT in the Town's TIP.
		VI.1.g.2 In accordance with Section 10-6.3 of the Municipal Code governing the construction of subdivisions, require the design and installation of sidewalks in all new subdivisions of land.

		VI.1.g.3 Consider establishing a bike path linking the villages in the Town with other planned regional bike paths. Where feasible, the old railroad right-of-way should be examined for feasibility as a location for portions of the bike path. In concept, the bike path would link Smithfield to Wallum Lake and connect eventually with other paths in northern Rhode Island and the Blackstone Valley National Heritage Corridor.
		VI.1.g.4 Require sidewalks to be constructed along new and reconstructed state and local roadways where there is an identified existing or projected need to furnish adequate and safe pedestrian movement to residential, commercial and industrial activities or community facilities such as libraries, schools, governmental buildings, places of worship and recreational facilities, with areas adjacent to schools receiving the highest priority.
		VI.1.g.5 Consider development of a village history theme focusing on historical attractions, village shops, inns, tours and other activities, capitalizing on a townwide and regional bikeway and/or trail system.
	VI.1.h Provide sufficient parking for employees and visitors at municipal offices to allow for normal routine governmental functions.	VI.1.h.1 Review proposals for new or expanded municipal office space to assure the provision of adequate parking to meet the requirements of the office.
	VI.1.i Furnish sufficient parking at the commercial, industrial and municipal centers to meet parking demand.	VI.1.i.1 Study the need for parking for commercial and governmental activities in Harrisville and for commercial activities in Pascoag.
		VI.1.i.2 Work with local businesses to develop parking supply and demand solutions.
		VI.1.i.3 Work with RIDOT and RIPTA to conduct a needs assessment and preliminary feasibility study of providing a Park & Ride lot in Burrillville.

		VI.1.i.4 Consider the utilization of off street parking to reduce traffic hazards along the heavily traveled route from Pascoag to Harrisville.
VI.2 To ensure that air quality in Burrillville meets ambient air quality standards and maintain air quality levels in the Town higher than these standards.	VI.2.i. Encourage measures which reduce air pollution levels	VI.2.i.5 Work with local business to implement air pollution reduction measures including, but not limited to, commuter services, park and ride lots, bus transit, carpool programs, bicycle programs, variable work hours.
		VI.2.i.6 Require that all new commercial and industrial developments meet or exceed national clean air standards.
		VI.2.i.7 Lobby adjacent communities to quickly address potential air quality problems within their boundaries.

Sources - Recent

1. Source: <http://www.planning.state.ri.us/tip/default.htm> July 16, 2004
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