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Transportation

Goffstown's transportation system should operate in a manner which helps to preserve and improve the quality of life of its citizens, while also providing for the safe uniform flow of traffic. Achieving this goal will require sound and innovative planning solutions to address future growth and development. This chapter of the master plan evaluates all modes of transportation as it relates to recreational, residential, commercial, institutional, and industrial land uses within Goffstown.

This chapter not only addresses vehicular traffic but also promotes alternative modes of transportation such as pedestrian, bicycle, and public transit. In addition to encouraging the use of alternative modes of transportation, a strong emphasis is also placed on establishing and maintaining safe, attractive neighborhoods for families and businesses throughout the entire community. The effect of the transportation system on the environmental quality of the community is considered as well.

1 Transportation Planning - Historical Context

The 1987 Master Plan Update included several recommendations for the transportation system in Goffstown. While some of the recommendations have not been implemented due to time and/or financial constraints, many improvements have been completed. Some of these improvements are listed below.



- The Henry Bridge Road/Mast Road intersection has been moved and signalized.
- The hump has been removed from Center Street.
- Signals at Shop n Save and Daniel Plummer have been added to Mast Road in the Pinardville area.
- The Twenty Year Plan prepared by the Department of Public Works continues to be the basis for the annual improvement of town roads.
- Corridor Plans were prepared by Southern New Hampshire Planning Commission (SNHPC). These plans studied the 114A

and 114 corridors from Pinardville through the Village area and also looked at the Back Road in Goffstown. The Corridor Plans provided data on vehicular movements throughout the corridors, as well as identifying problem areas and corrective measures (including their estimated costs).

The Grasmere area has experienced a considerable increase in vehicular traffic with the addition of three new subdivisions and the construction of the Mountain View Middle School. The 1987 Master Plan Update identified the intersection of Henry Bridge Road and Center Street as needing improvements. This intersection, as well as the Tibbetts Hill/Center Street intersection, have been impacted by the increase in traffic and may need improvements in the future. Grasmere continues to be the most rural area of Goffstown. Planning will play an important role in its development.

Other recommendations in the 1987 Update continue to play a prominent role. Some of these included limiting curb cuts on Mast Road and requiring a collector or service road for major developments along Mast Road.

The Corridor Plans prepared by SNHPC were valuable in that they provided useful data, constructive ideas for improving traffic flow (such as the use of turn lanes), and information that could be used in identifying areas which were most likely to experience significant traffic volume increases in the future. The focus of the corridor plans, however, was limited almost exclusively to vehicular travel. Recommended improvements frequently involved signalization and the elimination of parking, but rarely included recommendations for pedestrian access (such as sidewalks or crosswalks) or bicycle travel.

The 1990 Corridor Plan for Route 114 recommended five traffic signals in the Village area including the following.

- High/Elm/Main (two signals)
- Pleasant/Mountain Road/Main (two signals)
- Wallace/Mast Road

The placement of two coordinated signals at the High/Main Street and Elm/Main Street intersections is seen as inappropriate for the Village area. Rerouting of traffic using one way streets is identified and recommended as a more favorable and cost effective solution to improving this difficult and problematic intersection. The use of one way streets allows for a more continuous flow of traffic (versus signalization), increases parking space through the use of diagonal parking, and provides more exposure for the commercial areas in the Village business district.

In an effort to provide a better balance between all modes of transportation, this chapter includes recommendations that emphasize improved traffic flow but also encourages pedestrian and bicycle travel. Pedestrian travel is seen as especially important in the heavily developed areas of town including the commercial areas. It is hoped that by encouraging pedestrian access there will be a reduction in vehicular traffic. This reduction in traffic, coupled with

an increase in available parking, should also help to make Goffstown's commercial areas more easily accessible and user friendly.

Another purpose of this chapter is to encourage the preservation of the rural and historic character of the community. The use of traffic signals in historic areas and the introduction of four lane arteries in rural areas (as recommended in the Corridor Plans) are seen as incompatible with this goal.

For the reasons stated above it is recommended that the improvements put forth in the Corridor Plans be re-evaluated. Slated improvements for Mast Road in the Pinardville area should be reviewed with the thought of integrating sidewalks and crosswalks into any redesign plans. This will allow and encourage the safe movement of pedestrians in that part of town.

2 Existing Roadway System

A. Primary Highways and Arterial Roads

According to the records of the New Hampshire Department of Transportation (NHDOT), there are 138.19 miles of public roads and highways within the town limits. The six classification categories presented in Table 1 are used to identify which governmental agency (state, local, other) is responsible for maintenance of particular roadway segments in Goffstown. Classes I, II and III are the responsibility of the NHDOT, while the town is responsible for road classes IV and V. Roads designated as class VI are public ways which are unmaintained or discontinued, or, are referred to as "closed subject to gates and bars".

State Highway Class Number	Class Title	Length (miles)
I	Primary State System	6.19
II	Secondary State System	1.98
III	Recreational	0
IV	Compact System	28.76
V	Town Roads	95.88
VI	Unmaintained Roads	5.38
TOTAL		138.19

Mast Road, Routes 114 and 114A, serve as the major transportation corridor for traffic generated within the town, as well as towns to the west of Goffstown, linking those communities to Manchester. The Back Road east-west corridor serves much of the same function on the north side of the Piscataquog River. Route 114, from its intersection with Mast Road to the Bedford town line, serves as a limited access road, providing easy access to Interstate 293 without the congestion which characterizes Mast Road through Pinardville. Route 13 provides north-south access from Concord through Dunbarton to Goffstown Village and then proceeds in a southwesterly direction to the Town of New Boston.

As the primary highways reach saturation levels, many roads have changed from rural roads to arterial roads. Wallace Road, Shirley Hill, St. Anselm Drive and Black Brook Road are examples of former rural roads with greatly increased traffic flows resulting from commuters looking for alternate routes.

B. Subsystem Areas

Pinardville Area

Pinardville is the most urbanized section of Goffstown. Mast Road, the main thoroughfare in Pinardville, is intensively developed with strip commercial uses. These include the town's major shopping center, several large housing developments, and the Bartlett Elementary School.

St. Anselm Drive, which runs parallel to Mast Road, has become a major alternative route to avoid the congestion of Mast Road. There are also housing developments off of Daniel Plummer Road which serves as the connector road between St. Anselm Drive and Mast Road. The Mast Road/Daniel Plummer intersection has been the site of numerous accidents¹. A number of traffic lights have been added to Mast Road to allow access to and from various shopping centers.

There are a number of side streets in Pinardville which are narrow. In many instances they are extremely long, dead-end streets, and their only access to other roadways is via Mast Road. In addition, pedestrian travel in Pinardville is difficult due to incomplete sidewalks and limited crosswalks. Sidewalks are located on only one side of the street.

Goffstown Village

There are three major roadways that connect into the Village area. These include Mast Road, Wallace Road, Elm Street and Route 13. Mast Road, including the Main Street section, is part of Route 114 which is the main corridor through the Village area. It provides for primarily east-west traffic flows connecting to the towns of Weare and New Boston (by way of Pleasant Street/Route 13 South), and Dunbarton (by way of High Street/Route 13 North). It is heavily traveled during weekday rush hours and has no traffic lights. There are numerous failed intersections along this section due to high traffic volume².

The irregular street pattern within the Village reflects the geographic orientation of the Piscataquog River. An important transportation issue relates to the fact that one of the two bridges in Goffstown which crosses the river is located in the Village. As a result, traffic which needs to cross the river is funneled into the Village center causing congestion problems.

Main Street in the village area is part of a business district with sidewalks, some centralized parking, and crosswalks. Elm Street connects with Goffstown Back Road and is a major route to Manchester. Maple Avenue Elementary School is located off of Elm Street. The intersection is comprised

¹ Refer to transportation section of the master plan appendix for a listing of accident locations.

² *ibid.*

of Elm Street, Mast Road and High Street, is a major failed intersection due to high traffic volume and unaligned roads.

Wallace Road provides north-south access between the village of Bedford and Goffstown. This roadway is very hilly and narrow with little or no shoulders. Goffstown High School is located along this road. New residential development will add more traffic to the Wallace/Mast Road intersection.

Grasmere Section

Grasmere is a rapidly growing residential area with a small commercial zone. It is centered around Center Street, Goffstown Back Road, and Henry Bridge Road. Mountain View Middle School and the second bridge over the Piscataquog River are in this area. Improvements to Henry Bridge Road, construction of Mountain View Middle School, and the completion of a new bridge in September 1996, have all contributed to changes in traffic patterns in Grasmere.

C. Outer Regions and Neighborhoods

As with the Village area, the roadway network in the outer regions is reflective of the topographic characteristics of the hills and valleys which these roadways traverse. Many of these roads are narrow with limited sight lines. Some examples are Tibbetts Hill Road, Black Brook Road, and Shirley Hill Road. There are a number of dangerous intersections along these roadways. There has been a considerable amount of scattered residential development on many of the back roads in recent years which has increased the intensity of traffic usage.

Neighborhoods in Goffstown include a variety of conditions and characteristics. These range from rural/agricultural areas to more heavily populated sections within the main business districts of the town. Neighborhood transportation systems vary greatly in quality and intensity of use. Newer residential areas in the R1 and R2 zones have been built to more current standards including wider roads, sidewalks and buffer zones. Older neighborhoods tend to have narrower roads and in many cases, do not include sidewalks. Street lighting exists along the main business corridor but it tends to be limited in other residential areas.

The main highway corridors create barriers between neighborhoods due to the high traffic flow. The town's neighborhoods are threatened by older existing conditions, increasing traffic volume, and continued growth of Goffstown and the surrounding communities.

3 Alternative Transportation Modes

Pedestrian/Sidewalks

Goffstown has three areas of concentrated pedestrian travel: Pinardville; Grasmere; and the Village. The sidewalk network in these areas is

incomplete. Crosswalk markings are inadequate because the paint fades quickly. There is only one signalized crosswalk.

Bikeways

There are no areas specifically designated as bike trails. Goffstown does have old rail beds that could potentially be used for pedestrian and/or bicycle travel.

Public Transit

There is no public transportation provided by the town. There is no rail or bus service that the residents can use to travel between the Village area and shopping areas in Pinardville. The Manchester Transit Authority provides bus service within the City of Manchester. Currently, its Pinardville route runs hourly on weekdays, from 6 am to 5 pm, and serves St. Anselm College and Rundlett Hill Road. Service does not extend beyond this area. The town does not currently provide any park & ride facilities for commuters to use.

Interstate bus service is provided by Concord Trailways and Vermont Transit Lines between Manchester and major New England cities.

The School District provides bus transportation by contract with the Goffstown Truck Center. In the 1995-1996 school year, there were 21 buses transporting approximately 1,600 students.

There is no public transportation for the elderly or handicapped. Special Transit Service, Inc. (STS), a division of Easter Seal Society of New Hampshire which is located in Manchester, provides transportation upon request for a fee. It is Medicaid approved.

Taxi and Air Service

There are Manchester-based taxi and limousine companies that operate in the Goffstown area. The limousine companies provide daily service to and from the Manchester Airport, as well as to Logan Airport in Boston. Passenger air service is provided at the Manchester Airport to major U.S. cities by several national airlines. Air freight service is also provided by several carriers.

4 Summary and Recommendations

This final section of this chapter provides a summary of the findings which have emanated from the analysis of the town's transportation system conducted for the master plan. The summary of findings and issues has been grouped into ten Areas of Concern which include: general issues; urban roads; rural roads; minor arterial roads; intersections; pedestrian travel; bicycle travel; public transit; parking; and environmental quality. Each Area of Concern begins with a section of background information which is followed by a series of issues, goals, recommendations, and action statements.

A. General Issues

Issue A1 - Increased development is causing an over utilization of public services and is putting an increased demand on public facilities.

Goal A1- The town government should ensure that there is adequate funding for public services and public facilities despite increasing development.

Recommendation 1

Consider the implementation of an impact fee system in order to obtain financial contributions from new private sector development. The funds raised will be used to finance the construction of new facilities necessitated by increased development. Impact fees should cover:

- Municipal facilities required to service such areas as police, fire, roadway maintenance, solid waste disposal, and snow removal;
- Public facilities, road improvements, and recreational facilities;
- Schools

Issue A2 - Improvements to the minor arterial roads laid out by the corridor studies fail to take into consideration several aspects of the transportation system including: vehicular safety (accident rate); pedestrian and bicycle travel; and environmental and aesthetic concerns.

Goal A2 - Road improvements to the corridors should address deficiencies in the entire transportation network and the impact of proposed changes on surrounding conditions. Any improvements should reflect the vision of Goffstown residents for the transportation system as a whole.

Recommendation 1

In conjunction with Land Use chapter, establish a citizen group or groups to study long term traffic concerns. This group should pursue Recommendations 1 through 5 under Goal D1.

General Issues Action Plan

1. An impact fee system should be prepared by the Planning Board and voted on by the public. Fees will be collected from new developments that impact existing roads. Time Frame—should be submitted for vote before the public March 1998.
2. Amend subdivision and site plan review application to include a checklist against master plan compliance. Responsible Party—Planning Board. Time Frame—Immediately after the adoption of this master plan.

B. Urban Roads

Urban roads are located in the R1 and R2 zones of Goffstown, with the major concentration in the Village and Pinardville. Grasmere's residential area is small but expanding rapidly. Urban roads are neighborhood roads and should support safe pedestrian and bicycle travel. Planning will play an important role in future development of these areas.

The condition of Goffstown's urban roads varies greatly. Many of the older roads are rough and narrow with steep grades. Sight distance at intersections and road drainage are frequently inadequate. As a result, several of these roads are hazardous for pedestrian, as well as vehicular travel. A number of newer roads, while conforming to the standards at the time, share many of the same problems. The most recently constructed roads are wider and have sidewalks, and therefore, are safer for pedestrian travel.

Issue B1 - The current condition of many urban roads is hazardous to vehicular and pedestrian travel within the R1 and R2 zones.

Goal B1- Urban roads should provide for safe vehicular and pedestrian travel within the R1 and R2 zones.

Recommendation 1

Urban roads in new subdivisions should:

- a) be constructed to a width of 36 feet with vertical curbing is included on both sides (a width of 30 feet if vertical curbing on one side);
- b) have sidewalks constructed to a 5 foot width on at least one side of the road;
- c) have a buffer of 3.5 feet between the road and sidewalk to provide for pedestrian safety³.

Recommendation 2

Upon reclamation, urban roads in established areas should be widened to include a 6-8 ft. shoulder for pedestrian and bicycle use, with 4 inch wide white edge-of-travel marking per M.U.T.C.D. (Manual on Uniform Traffic Control Devices) criteria (when there is no sidewalk), where right-of-way allows. (Per recommendation of the Department of Public Works.)

Issue B2 - Street lighting is inadequate.

Goal B2.1- Lighting should be required in new residential developments.

³As recommended in the *Bikeway and Pedestrian Master Plan*, SNHPC, 1994.

Recommendation 1

Street lighting standards should be adopted which require lights at all intersections of new subdivisions. These standards should be enforced.

Goal B2.2 - Lighting should be improved in established neighborhoods.

Recommendation 1

Street lights should be installed at intersections of established neighborhoods as urban roads are improved.

Recommendation 2

School bus stops at intersections should be lighted. Lighting at bus stops is a safety issue and is a priority.

Issue B3 - Many of the urban roads have poor drainage.
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Goal B3.1 - Established urban roads should have improved drainage.

Recommendation 1

When improving established roads, drainage should be upgraded to current standards when feasible, or, as recommended by the Department of Public Works.

Goal B3.2 - Newly constructed urban roads should have closed drainage.

Recommendation 1

Urban roads should have closed drainage. (See Recommendation 1 under Goal J3).

Issue B4 - Many old intersections are unsafe due to terrain (steep grades) and limited sight distance.
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Goal B4 - Older urban road intersections should be improved.

Recommendation 1

As older roads are upgraded, the Department of Public Works should continue its practice of increasing sight distance, cutting grades when possible, and aligning intersections.

Recommendation 2

Sight distance should be improved/preserved by pruning shrubs and trees that obscure vision.

Issue B5 - Narrow urban roads do not have room for on-street parking.

Goal B5 - On-street parking should not compromise safety.

Recommendation 1

When on-street parking for commercial areas encroaches onto urban roads, the town should consider providing public parking or increasing the parking at the commercial site. (See Area of Concern I. Parking)

Issue B6 - Speed limits are excessive on some urban roads.

Goal B6 - Set speed limits appropriate to road conditions.

Recommendation 1

Lower speed limits should be posted on urban roads whose conditions warrant slower speeds.

Recommendation 2

Roads that provide pedestrian and vehicular travel directly to school buildings should have posted lower speed limits within the school zone. These roads include the following.

- Wallace Road
- Tibbetts Hill
- Lauren Lane
- Maple Avenue
- Smith Road
- Elm Street
- Mast Road

Urban Roads Action Plan

1. Pursue an impact fee system. (See Action Plan item "a" under Goal A2).
2. Widen urban roads to include shoulder for pedestrian and bicycle travel. Responsible Party—Department of Public Works. Time Frame—As urban roads are reclaimed.
3. Establish lighting standards that include strict enforcement. Responsible Party—Planning Board. Time Frame—June 1998.
4. Identify unlighted intersections with a school bus stop. Establish lighting at these intersections.
5. Look into moving existing lights to more effective locations. Responsible Party—Goffstown Highway Safety Committee. Time Frame—January 1999.
6. Identify existing roads that need drainage improvement. Upgrade drainage to current standards when improving roads. Responsible Party—Department of Public Works.

7. Amend site plan review and subdivision regulations to conform with master plan recommendations. Responsible Party – Planning Board. Time Frame – May 1998.
8. Safety Committee should assess town roads annually and determine if speed limit needs to be changed and posted.
9. Expand School Zones to include Tibbetts Hill Road (up to Lauren Lane), Lauren Lane, Wallace Road (up to High School entrance), Smith Road and Maple Avenue. All school zones should post and light the lower speed limits. Responsible Party – Goffstown Police Department and Goffstown Highway Safety Committee.
10. As older roads are upgraded, the Department of Public Works should continue its practice of increasing sight distance, cutting grades when possible, and aligning intersections.

C. Rural Roads

Goffstown's rural roads reflect the topographic characteristics of the surrounding area. Many of these roads are narrow with limited sight lines due to the winding, hilly nature of the roadways. There are also a number of dangerous intersections.

There has been a considerable amount of scattered residential development on many of the rural roads in recent years which is increasing the intensity of traffic usage. Older secondary roads that were adequate in the past have become hazardous due to physical limitations. Existing rural roads have little or no provision for pedestrian and bicycle travel.

Increase in traffic and development has caused many roads originally classified as rural, to move toward the urban and arterial classifications. The result are roads and intersections that cannot handle the demands made of them. Most rural roads have new residential development resulting in an increase in both pedestrian and bicycle travel.

Issue C1 - Many rural roads are physically unable to handle increasing traffic and pedestrian volume.

Goal C1 - Rural roads should have structural improvements.

Recommendation 1

As older roads are upgraded the Department of Public Works should continue its practice of increasing sight distance, cutting grades when possible, and aligning intersections.

Recommendation 2

Sight distance should be improved/preserved by pruning shrubs and trees that obscure vision.

Recommendation 3

When reclaiming, rural roads should be widened to include a 6-8 foot shoulder for pedestrian and bicycle use, with a 4 inch wide white edge-of-travel marking per M.U.T.C.D. (Manual on Uniform Traffic Control Devices) criteria, where right-of-way allows.

Issue C2 - Street lighting is inadequate.

Goal C2 - Rural roads should have adequate lighting.

Recommendation 1

School bus stops at intersections should be lighted (provided utilities are available). Lighting at bus stops is a safety issue and is a priority.

Issue C3 - Many rural roads have poor drainage.

Goal C3 - Rural roads should have improved drainage.

Recommendation 1

When improving (reclaiming) existing roads, drainage should be upgraded to current standards when feasible, or as recommended by the Department of Public Works.

Rural Roads Action Plan

1. Widen rural roads to include a shoulder for bicycle/pedestrian travel as roads are improved. Responsible Party – Department of Public Works.
2. Identify unlit intersections with a school bus stop. Establish lighting at these intersections. Look into moving existing lights to more effective locations. Responsible Party – Goffstown Highway Safety Committee. Time Frame – January 1999.
3. As older roads are upgraded, the Department of Public Works should continue the practice of increasing sight distance, cutting grades when possible, and aligning intersections.
4. Identify existing roads that need drainage improvement. Upgrade drainage to current standards when improving roads. Responsible Party – Department of Public Works.

D. Minor Arterial Roads

Increased development in Goffstown and surrounding towns has resulted in a major increase in traffic. Goffstown has felt these changes dramatically as the arterial roads used as commuter routes to Manchester and points south become more and more congested. The 1989 and 1990 Corridor Studies indicated that the traffic volume in the Village area will near capacity in 1995 and exceed capacity by 2005. They also stated that by 1995 “most of the

corridor between Pinard Street and Daniel Plummer Road, and all of NH 114 from the NH 114A intersection westerly to Henry Bridge Road, will have reached capacity.⁴ The physical limitations of the existing roadways to handle the increase in traffic and development are causing many failed intersections.

Issue D1 - Many of the minor arterial roads have congested segments.

Goal D1 - Mitigate the congestion and improve the flow of traffic.

Recommendation 1

The Planning Board should commission a feasibility study of the Village area, taking into consideration, based on public input, all potential routings of the corridors. The report would evaluate the corridors for engineering feasibility, socio-economic impacts, and construction costs. Possible routings to be included in the study are Recommendations 2 through 6 below. If a feasibility study is not approved, then one of the solutions provided in this master plan should be considered in lieu of the Corridor Study recommendations. The "Mitigative Measures" described in the *Corridor Plan for New Hampshire Route 114* are not recommended and should be discouraged for the segment of Main Street located between High and Depot Streets for the following reasons.

- The signalization of Elm and High Streets would result in delays and queuing of vehicles waiting for two traffic signals within very close proximity to each other. As commuters look for routes to avoid these signals, traffic will increase on roads neither designed nor constructed to handle the volume. Queuing traffic may also cause a gridlock effect at the intersections of Church and Summer Streets.
- The Corridor Study calls for the elimination of existing parking on the southside of Main Street. The Village Business District is currently experiencing a parking shortage. Elimination of parking would further exacerbate the shortage and pose severe difficulties to the businesses located along this segment of Main Street.
- The widening of segments of High, Elm, and Main Streets will change the character of the village area from a user friendly business district to an urban through-way. A three lane Main Street which provides limited parking offers little incentive for vehicles to stop. Pedestrian travel will also be difficult.

Recommendation 2

Establish redirection of traffic in the Village area. (Identified as Phase 1 in the Land Use Chapter). Portions of Main, North Mast, Church,

⁴ *Corridor Plan for NH Routes 114A and 114 Goffstown NH*, SNHPC, 1989, pg. 32
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and Depot will become one way. White Street and Kendall Hadley Road will become one way traveling north to south. (Refer to the Transportation section of the master plan appendix for a map which illustrates the proposed rerouting of traffic). This is a cost-effective way to deal with traffic volumes, expected to reach capacity before 2005, and it eliminates the need for excessive signalization called for in the Corridor Plans. In addition, diagonal parking on Main Street will result in an increase in parking spaces.

Recommendation 3

Relocate the Elm Street/Main Street intersection. This will increase the distance between the Elm, High and Main Street intersections making it easier to enter into the flow of traffic. The green area, along with the statue, would be moved next to the library, enhancing that area. This recommendation should be implemented only if the Village Green can be preserved at its present location, or recreated at this new site. As an alternative to relocating Elm Street, the town should consider extending Mill Street to Elm Street. This would provide an alternative route for through traffic traveling from Goffstown and New Boston to Manchester. This should be a route for through traffic. Commercial strip development should not be allowed and curb cuts should be limited. Signalization may also be required at this intersection.

Recommendation 4

Assign police officers to the Elm Street/High Street intersection during peak travel hours to direct traffic. This should be considered a temporary solution since permanent use of traffic officers is not a suitable long-term solution due to safety concerns and cost.

Recommendation 5

If the current bridge in the Village needs reconstruction, the town should strongly consider relocating the bridge to the old railroad bridge site, exiting onto East Union Street. This would relieve the congestion at the Mountain Road and Pleasant Street intersections and eliminate the two traffic lights recommended in the Corridor Plan. This approach would decrease traffic along a historic section of Mast Road and will provide increased exposure to the industrial site along the river. The use of Mast Road and East Union Street as a one-way street loop is not recommended. Whether the current bridge site or the old railroad site is used will depend upon more detailed engineering studies. If either the current bridge does not need to be replaced, or the current bridge site is chosen for the reconstruction site, access to the industrial site located on Factory Street should be improved.

Recommendation 6

Construct a Depot Street extension beyond the current Department of Public Works site, which would exit onto North Mast Road between

the cemetery and the Mobil Station. This will provide an in-town bypass for through traffic. It is also a way in which transportation can enhance economic development by opening up access to industrial/commercial land. In addition, this improvement would provide an alternative traffic pattern which would permit greater flexibility in dealing with future traffic volumes. This route should be used for through traffic and commercial strip development should be discouraged. Curb cuts should be limited.

Recommendation 7

Investigate the feasibility of a park & ride program, possibly along the Goffstown/Weare and Goffstown/New Boston town lines. (See recommendation 1 under Goal I1).

Issue D2 - Interrupted traffic flow results in vehicular delays and congestion.

Goal D2 - Provide safe uninterrupted flow of traffic without delays and congestion.

Recommendation 1

Maintain Residential zoning where it currently exists along Mast Road. Zoning changes that result in a greater intensity of use will increase the volume of vehicles using Mast Road.

If rezoning does occur, the Planning Board should consider the affected segment of the corridor and provide a comprehensive plan to mitigate the impact of increased traffic volume and resulting turning movements. (See Area of Concern I. Parking)

Recommendation 2

When large, undeveloped parcels of land along the arteries are considered for development, a collector road and buffer zone with landscaping should be required. This is especially important for the commercial/industrial zones.

Recommendation 3

As on-street parking is eliminated due to road/intersection changes, provisions should be made for centralized parking. (See Area of Concern I. Parking).

Recommendation 4

With increased development and/or change of use, vehicular curb cuts should be limited. The transportation system must be taken into consideration when the Planning Board considers site plans for development or rezoning along the Corridors. Curb cuts and turning movements that interrupt the "traffic movement" must be limited. The Corridor Plan states that "NH Rte 114 is functionally classified as

a major arterial highway⁵” and that “the Back Road is functionally classified as a minor arterial roadway⁶.” “It is important to give the highest priority to maximizing the efficiency of the traffic movement function⁷” of these roads. “Generally, a few well-designed, high-volume intersections to accommodate the traffic of future development which will be attracted to this portion of the corridor, will be better than several low-volume driveways or streets⁸.”

Issue D3 - Some rural and urban roads have become minor arterial roads due to an increase in traffic volume. These roads were not constructed to safely handle this amount of traffic.

Goal D3 - Improve those roads that were urban or rural as their traffic volume increases.

Recommendation 1

Identify those rural and urban roads that have become minor arterial.

Recommendation 2

Those roads (such as Wallace Road) that are structurally inadequate should be reconstructed to meet current standards.

Recommendation 3

As traffic increases, measures such as the addition of turning lanes, need to be taken to prevent future congestion.

Recommendation 4

Rural and urban roads with an increase in vehicular traffic need to be periodically assessed for change in road status. Anticipating those roads that are likely to change to minor arterial will allow for planning, and hopefully avoid future congestion.

Issue D4 - Inadequate sidewalks (See Area Of Concern F. Pedestrian Travel).

Minor Arterial Roads Action Plan

1. Amend subdivision and site plan review regulations to provide for collector roads. Responsible Party – Planning Board. Time Frame – May 1998.
2. Changes in zoning should consider impact on parking.
3. Maintain minor arterial roads at two or three lanes.
4. Pursue an impact fee system. (See Action Plan item “a” under Goal A2).

⁵ Corridor Plan for NH Rtes 114A and 114, page 46, May 1989.

⁶ Goffstown Back Road Corridor Study, page 24, May, 1992.

⁷ Ibid.

⁸ Corridor Plan for Rtes 114A and 114, page 46, May 1989.

E. Intersections

Several intersections in the town of Goffstown are at or near failure. Most are located in the Village along the Route 114 corridor. Increasing traffic along Goffstown Back Road is also beginning to cause delays and hazardous conditions at intersections in the Grasmere area of town.

Pinardville has experienced major improvements to some of its failed intersections. These improvements closely followed the recommendations of the 1988 Corridor Study. While these changes may have reduced the delays at intersections, they did little to improve pedestrian, bicycle or vehicular safety. Additional sidewalks with crosswalks were not included in these improvements. Also, a high number of accidents continue to occur at the Daniel Plummer/Mast Road intersection despite improvements. Further improvements are scheduled for the Pinardville area.

Many intersections continue to be threatened due to increasing traffic, as well as the lack of funding for improvements. Short-term, creative solutions will be critical in order to accommodate current and anticipated traffic volumes.

Issue E1 - Goffstown has several *problem* intersections.

A problem intersection is defined as one which has failed, according to the corridor studies, or, has a high volume of traffic accidents according to police reports. (See the transportation section of the master plan appendix for a list of accident locations and failed intersections).

Goal E1.1 - Identify problem intersections.

Recommendation 1

Identify and prioritize problem intersections. Presently, there is no current system to identify problem intersections.

Recommendation 2

An ongoing process for assessing the service and safety level of intersections should be established. Intersection improvement needs to be looked at as an interrelated process. The affect of new development and other intersection changes impacts intersection operation.

Goal E1.2 - Improve problem intersections. (See Area of Concern D. Minor Arterial Roads)

Recommendation 1

Re-evaluate the Corridor Plan recommendations for the Pinardville area integrating:

- Pedestrian and bicycle safety (protected crosswalks in commercial areas);
- Pedestrian access (crosswalks, sidewalks);
- Minimization and coordination of traffic lights;
- Rerouting/redirecting traffic;
- Planning for new development and expansion of use (may result in restricted use).

The following four problem intersections in Pinardville should be given high priority:

- Daniel Plummer/Mast Road (although recently improved with a traffic light, this intersection has the highest accident rate in Goffstown);
- St. Anselm Drive/Route 114 (this intersection is signalized but has 14.8 accidents per year);
- College Road/Mast Road (rated E in 1988 Corridor study with average accident rate of 13.4); and
- Rockland Avenue/Rosemont Street/Mast Road (recommended by the Department of Public Works)

Recommendation 2

The following intersections in Grasmere should be assessed to determine the existing Levels of Service and plans for improvements.

- Center Street/Henry Bridge Road
- Center Street/Tibbetts Hill Road
- Center Street/Tirrell Hill Road

Recommendation 3

The Mountain Road/South Mast Road intersection in the Village should be evaluated. The Planning Board should continue to require site plans on new or substantially expanded properties abutting or impacting this intersection.

Issue E2 - Increased commercial and residential development has resulted in further deterioration of problem intersections.

Goal E2 - Problem intersections should not be further strained.

Recommendation 1

Consider the implementation of an impact fee system (see Recommendation 1 under Goal A1) to pay for upgrading those intersections scheduled for improvement within six years in the Capital Improvement Program (CIP).

Recommendation 2

If problem intersections (rated F or below and/or having an average accident rate of 5 or greater per year) are not scheduled for improvement within six years on the Capital Improvement Program (CIP), then any substantial increase in the intensity of use of that intersection should be carefully evaluated by the Planning Board. It should be noted that the 1989 Corridor Study considers 3 or more accidents to be a “significantly high volume of accidents⁹.”

Issue E3 - Goffstown does not have an existing comprehensive system for studying intersection improvements.

Goal E3 - There should be an established system for studying intersection improvements and their effect on surrounding intersections.

Recommendation 1

Intersections should be considered part of a whole transportation network and solutions to problem intersections should take into consideration their impact on surrounding conditions.

Intersections Action Plan

1. Develop a matrix to identify problem intersections and evaluate improvements. Consider accident counts, level of service, and impact on surrounding intersections. Responsible Party—Planning Board. Time Frame—Fall 1998.
2. Pursue an impact fee system. (See Action Plan item “a” under Goal A2).
3. Control development that negatively impacts problem intersections. If an intersection is not scheduled for improvement on the Capital Improvement Program (CIP), then any substantial increase in the intensity of use of that intersection should be carefully evaluated by the Planning Board. If a proposed development will adversely impact such an intersection the Planning Board should consider requiring that appropriate capital improvements be implemented as part of the review/approval process. Responsible Party—Planning Board. Time Frame—Ongoing.
4. Re-evaluate the Corridor Plan for the Pinardville area. Responsible Party—Planning Board. Time Frame—As soon as possible.

F. Pedestrian Travel

Pedestrian travel has not been a priority in the development of Goffstown's transportation system. As a result, many heavily developed (R1, R2, and Commercial zones) areas lack an interconnecting sidewalk system. Crosswalks are either poorly marked, due to the temporary nature of the crosswalk paint, or are nonexistent along heavily traveled intersections.

⁹ Corridor Plan for NH Routes 114A and 114 Goffstown NH, SNHPC, 1989, pg. 23.
Transportation

The Pinardville area hosts the most dense commercial and residential development in the Goffstown community. While much of the shopping is in close proximity to the residential housing, pedestrian access to stores and malls is difficult due to the segmented sidewalk and crosswalk network. Despite improvements, the Daniel Plummer Road/Mast Road intersection fails to provide pedestrian access to a major shopping area in Pinardville. Plans for further improvement in the Mast Road Corridor are currently being finalized. Pedestrian travel should be addressed in the final plan of this corridor improvement.

The Village area has a more comprehensive sidewalk system through its commercial district. Sidewalks exist on both sides of Main Street and crosswalks are present at several intersections. Like Pinardville, sidewalks are rare in established residential areas.

The Grasmere area is experiencing increased vehicular and pedestrian traffic volume along Center Street. This is due to the construction of the Mountain View Middle School, new residential development in the vicinity, and the expected traffic increases that normally occur in Goffstown. There continues to be an opportunity for planning in this area since much of the development has been recent or is on-going. Unfortunately, the sidewalk system is already segmented and the pattern of limited planning for pedestrian travel continues.

Issue F1 - There is a frequent occurrence of segmented sidewalks throughout the town.

Goal F1 - There should be a connecting network of well-maintained safe, handicapped accessible sidewalks and crosswalks in the Village, Grasmere and Pinardville.

Recommendation 1

As roads are improved, sidewalks should be provided on both sides of the corridors (R1, R2, and Commercial zones) in the locations outlined below.

- Along Route 114 from Autumn Street to Wallace Road
- Along Route 114A from the Manchester Line to Danis Park Road
- Along Elm Street from Main Street to Maple Avenue. (Sidewalk should continue on one side to Paige Hill)
- Along Center Street from Tibbetts Hill Road to Henry Bridge Road
- Along Daniel Plummer Road from St. Anselm Drive to Mast Road

Recommendation 2

Sidewalks should be provided in newly constructed residential developments (R1 and R2 zones) as outlined in Recommendation 1 under Goal B1.

Recommendation 3

As improvements are made to rural and existing urban roads, wider shoulders should be provided to allow for safe pedestrian and bicycle travel. (See Recommendation 2 under Goal B2).

Recommendation 4

Sidewalk gaps along urban roads in school zones should be identified and improved.

Issue F2 -There is a shortage of suitably located crosswalks.

Goal F2 - Crosswalks should be provided at all locations where demand is high.

Recommendation 1

Identify areas where there is a need for crosswalks or a pedestrian bridge. High priority should be given to the following locations.

- Goffstown Plaza/Daniel Plummer Road/Shaw's. This should be protected with a signal.
- Mast Road between Moose Club Park and the Route 114/114A intersection. This area is densely populated with residences and small businesses. Traffic along this segment of Mast Road is heavy and crossing for residents and customers is difficult.
- Lynchville Park

Recommendation 2

Protect crosswalks with limited visibility through the use of signage. One location to be given high priority is St. Lawrence Church/West Union/East Union.

Issue F3 - Current crosswalk paints are water soluble and fade quickly.

Goal F3 - Provide visible crosswalks that are properly marked and long lasting.

Recommendation 1

Use a thermoplastic marking process at designated (high volume/safety concerns) locations as roadways are resurfaced. (See the transportation section of the master plan appendix for Goffstown Police Department recommendations).

Pedestrian Travel Action Plan

1. Budget money for permanently marking key crosswalk locations. Responsible Party – Budget Committee. Time Frame – To begin with the 1998 budget process.

2. Establish new crosswalks, where needed, starting with a permanently marked crosswalk at the Daniel Plummer/Goffstown Plaza intersection that would provide safe access to that shopping area. Responsible Party – Department of Public Works. Time Frame – September 1999.
3. Identify funding options for promoting pedestrian travel.
4. Establish and maintain a standard number of crosswalks, per year, that will be baked onto roadway.
5. Pedestrian right-of-way in crosswalks should be strictly enforced by the Goffstown Police Department.

G. Bicycle Travel

Bicycle travel has been given little attention in this community. There are no bicycle trails or extended shoulders on major roads identified for bicycle commuting. The old rail bed could be utilized as a bicycle trail connecting the Village area with Pinardville. In areas where the rail bed is recommended to be used for a road right-of-way, a bike path or extended road shoulder should be provided to continue the bicycle/pedestrian pathway.

Issue G1 - There is a lack of dedicated bike/pedestrian paths.

Goal G1 - Provide a safe accessible area for bike/pedestrian travel.

Recommendation 1

Convert the old railroad bed into a bike path.

Recommendation 2

As rural and urban roads are improved, shoulders should be widened to allow for safer bicycle travel. (See Recommendation 2 under Goal B1 and Recommendation 3 under Goal C1).

Recommendation 3

Establish bikeways on minor arterial roads. These roads have a greater width for border bicycle paths, good pavement, and allow for commuting by bicycle. This is recommended by the Regional Transportation Plan and Transportation Improvement Program (FY97-FY99) prepared by the Southern New Hampshire Planning Commission. (See Recommendation 2 under Goal B1).

Bicycle Travel Action Plan

1. Pursue funding options for a bicycle path.

H. Public Transit

Historically, the Manchester Transit Authority provided bus travel throughout Goffstown and Manchester. Due to lack of demand and increasing costs, this service was discontinued to all but the extreme southeast corner of Goffstown. The remaining routes provide travel throughout the City of Manchester.

There is no public transportation for the elderly or handicapped. Special Transit Service, Inc. (STS), a division of Easter Seal Society of New Hampshire located in Manchester, will provide transportation upon request for a fee. The Salvation Army also has a network of volunteers who provide transportation for the infirm, disabled, and those who are house bound. This service is dependent upon the availability of volunteers.

Issue H1 - Goffstown has very limited public transit service.

Goal H1 - Public transit service should be available if the demand and need arise.

Recommendation 1

Evaluate the demand and need for public transit service.

Recommendation 2

Determine the feasibility of, and possible funding sources for, public transportation in Goffstown. The town should be prepared to offer a public transit plan when the demand warrants the implementation of this service.

Issue H2 - The community does not provide transportation for the infirm, disabled, and house bound.

Goal H2 - Public transportation should be provided for those in need.

Recommendation 1

The town should pursue options for providing transportation and its funding for this segment of the community. (See Human Services chapter of the master plan).

Public Transit Action Plan

1. Study the feasibility of public transit. Responsible Party – Selectmen.

I. Parking

In the past, much of Goffstown's parking needs were met by on-street parking. Over time, increasing traffic has left less space for parked vehicles and a growing demand for parking space. The off-street parking that does exist causes frequent interruption in the traffic flow along the corridors and creates hazardous situations.

Urban roads are narrow and do not have room for parked vehicles. There is inadequate space for vehicles at the Goffstown schools. High school students, unable to leave their cars in school lots, resort to parking their cars on the narrow urban roads.

Issue I1 - There is an absence of a parking plan for businesses/properties along the corridors.

Goal I1 - A parking plan for the corridors should be established.

Recommendation 1

Establish a parking plan to reduce interruption of traffic flow through the corridors. Such a plan should make provisions for the following items.

- a) Identify areas for Park & Ride lots, including the Goffstown/Weare and Goffstown/New Boston town lines. Discussions of a Park & Ride concept should be held with abutting towns.
- b) Identify areas within the business districts of town that can be used for parking. These lots should be reserved for current or future parking needs.
- c) Develop plans for centralized parking lots in areas where zoning changes will introduce commercial or business uses. Centralized parking should be used to control traffic interruptions from traffic exiting and entering businesses located along the corridors. A pedestrian network will also be necessary to provide access to the local businesses from the parking site.
- d) Parking on a business site (in RSBOD) should be located at the rear of the property and be connected to abutting parking areas. Points of access and egress of vehicles should be limited. (This does not eliminate the need for centralized parking).
- e) The parking system should integrate aesthetics as an important component of the system. Parking areas should be screened with a "green fence" and landscaping should be provided where needed. An attractive community will encourage economic growth.
- f) All parking lots (new and existing) should be well marked and accessible.
- g) Access and egress of parcels should be evaluated for impacts to on-site traffic circulation, off-site traffic flow, turning movements, and sight distance. Said evaluations should include a traffic impact analysis. Upon a change of land use the Planning Board should encourage the development of shared parking and access with adjacent parcels of non-residential use, so as to restrict the number of curb cuts.

Issue I2 - There is inadequate parking at Goffstown's schools.

Goal I2 - Sufficient parking should be provided at Goffstown area schools.

Recommendation 1

The School Administrative Unit (SAU) and the School Board should look at solutions that would eliminate the need for parking on public streets. (See Issue B5).

Parking Action Plan

1. Develop a parking system that limits curb cuts and maximizes pedestrian travel. It should provide for both centralized and shared parking (in RSBOD areas). It should incorporate zoning changes and accommodate increases in development. Responsible Party – Planning Board. Time Frame – May 1999.
2. Provide adequate parking at Goffstown Area Schools, particularly Goffstown High School. Responsible Party – Goffstown School Board and SAU #19. Time Frame – January 1999.

J. *Environmental And Aesthetic Quality*

Until recently, most areas in Goffstown could be classified as rural. The mountains and lakes in town attracted many tourists from the mid 1800s to the mid 1900s. Despite recent growth in population and traffic, the Village and Grasmere areas still retain a small town atmosphere.

Due to recent increases in vehicular traffic, Goffstown's urban and arterial roads have experienced changes that negatively affect the environmental and aesthetic quality of the surrounding areas. These changes are listed below. It should be noted that the first two items contribute to the queuing of cars, which negatively affects the quality of the air, as well as the overall quality of life of the surrounding areas.

1. The increasing use of signalized intersections, especially on Route 114A.
2. Extreme delays incurred at unsignalized intersections rated E and F.
3. Development in areas that contain designated scenic roads.
4. Airport expansion that has increased the amount of air traffic over Goffstown.

There are many benefits to addressing Goffstown's environmental and aesthetic concerns as they relate to transportation. Maintaining and enhancing Goffstown's rural and village atmosphere is beneficial to its residents as well as its businesses. Attractive communities are able to attract more business and can improve the quality of life of their residents. Careful planning of roads, bridges, bikeways, intersections, and pedestrian walkways can have a direct effect on preserving a small town way of life.

Issue J1 - Goffstown is in danger of losing its rural atmosphere.

Goal J1 - Preserve and enhance Goffstown's rural atmosphere.

Recommendation 1

Road improvements should include the following:

- a) landscaping in parking areas, intersections, and circles;
- b) attractive bridge repair; and
- c) collector roads with "green screen" for major industrial or commercial complexes.

Issue J2 - Traffic delays are causing a deterioration of air quality.

Goal J2 - Traffic delays along the corridors should be reduced.

Recommendation 1

Air quality should be considered when designing road improvements. Frequent signalization creates a queue of idling cars resulting in a deterioration of air quality. (See Areas of Concern B. Urban Roads and D. Minor Arterial Roads).

Issue J3 - Water quality degradation due to roadway runoff.

Goal J3 - Preserve and enhance water quality.

Recommendation 1

Establish a roadway storm water system to collect and direct runoff into treatment devices prior to discharging into water courses, wetlands, or surface water bodies.

Issue J4 - Increases in air traffic has produced an increase in noise pollution.

Goal J4 - Noise pollution caused by increasing air traffic should not increase.

Recommendation 1

Goffstown should continue its involvement in the development and expansion of the Manchester Airport. It is important that Goffstown not be unfairly impacted by airport expansion.