VIII. C I R C U L A T I O N

BACKGROUND

The circulation and transportation patterns of a community – how people move about, how they leave and enter, most clearly demonstrate the systemic nature of a community –how the elements of a community are integrally involved with each other in a dynamic relationship. Changes in one element affect and change the other elements in that system. How and where roads are laid out, access to major highways, what alternatives to vehicular travel exist – all these directly affect human settlement choices, business location choices, land use patterns, economic development, availability of open space, farmland, and natural areas for wildlife. Changes in circulation patterns, traffic volume, and transportation design send strong ripple effects through the other elements of community life that can be beneficial, detrimental, or both. For this reason, it is particularly important to better understand and take into account the relationships between circulation patterns and land use patterns, development growth, residential development, and economic development.

Figuratively and literally, vehicle circulation and the vehicle transportation network dominate Derry's landscape. Derry's unprecedented growth since the 1970s has brought with it a substantial increase in traffic volume. A major east-west connector – Route 102 – passes through Derry and, as Broadway, is Derry's downtown main street. Route 102 links the Town and its eastern neighbors with Interstate 93, thereby serving as a route for through traffic and commuter traffic. From south to north, Route 28 serves as a major connector and additional route for commuters within and through Derry.

At the same time, the Town's major industrial area, located on Derry's west side north of Folsom Road and targeted as a prime area for economic development, is not easily accessible from Route 102 and hence Interstate 93. For these two reasons Derry is engaged, as of the writing of this Plan, in a major, long-term planning initiative, working with regional, state, and federal transportation agencies and neighboring communities to see a new I-93 interstate exit developed just north of the present Exit 4. The Town sees the development of this new exit – Exit 4a – as a major solution both to relieving traffic congestion on Routes 102 and 28, and also providing easier access to its business and industrial area.

TableVIII-1
Projected Traffic Volume: 1995-2020
(AM Peak Hour)

Location	1995	2020	% Chnge
Rte 102 east (@Fordway/High St.	426	480	13%
Rte 102 west (@Fordway/High St.	645	730	13%
Route 102 east turn right at 28 rotary	427	480	12%
Route 102 turn north on 28	770	1055	37%

Source: SNHPC Metropolitan Manchester Study Model

Table VIII-2
Average Annual Daily Traffic -1995

Location	#Vehicles/Day
Rte 102 between I-93 & Main Street	24,300
Rte 102 between Main St & 28 rotary	17,800
Rte 28 north from rotary	9,350
Rte 28 north of Rte 102 intersection	16,050

Source: SNHPC Metropolitan Manchester Study Model

Exit 4a

As of winter, 2001, the Exit 4a initiative is in the third of a five-stage environmental impact study process. Two possible exit locations have been identified and conceptual designs prepared. The first location is about a quarter of a mile north of the Ash Street overpass. The second alternative is just south of the Stonehenge Road overpass. Five connector road options are being studied. Derry citizens and officials are working in a Citizens Advisory Task Force to make recommendations on the most preferred alternative. The final environmental impact statement is expected to be completed by December, 2002. Construction is expected to start around March, 2004, with completion anticipated in 2010.

Other Transportation Initiatives

Ross's Corner

In 1998, a transportation study was completed by a traffic engineering consulting firm for the Ross's Corner area of Derry. This is a major intersection of five roadways, including The By-Pass, in Derry's Downtown that has experienced worsening congestion and a high accident rate. It is located near the Police Station and Hood Plaza. NHDOT improvements planned for this intersection include a southbound right-turn lane and additional left-turn storage. Based upon traffic counts and projections, capacity analyses and simulations, the study recommended adding such improvements as a second northbound lane, a widening the eastbound left turn storage lane, and extending the westbound exclusive right turn lane to the Pinkerton Street intersection. Other improvements were recommended for the Tsienneto Road/Pinkerton Street intersection, the Crystal Avenue/Hood Plaza driveway intersection, and Linlew Drive/Route 28 By-Pass intersection. As of the date of this Plan, a traffic study sponsored by the Town, the NH Dept. of Transportation, and private landowners is underway, examining such alternatives as widening The Route 28 By-Pass northward to Walmart and Victory Supermarket.

Crystal Avenue Corridor Study

Earlier, the Southern New Hampshire Planning Commission carried out a study of the Crystal Avenue Corridor that included a series of recommendations to reduce congestion and risk of traffic accidents. The study recommended minimizing curb cuts, encouraging shared driveways, and access management controls to reduce turning maneuvers. The study also recommended a new access road from Crystal Avenue to Hood Plaza to reduce the conflicts from vehicle queuing at Ross's Corner and to divert some existing traffic to lessen demand at Ross's Corner.

A subcommittee of the Derry Planning Board is studying the feasibility of an impact fee ordinance primarily related to traffic generation.

Downtown Circulation

With the east-west thoroughfare Route 102 also functioning as Derry's Downtown main street – Broadway - the Town and the Main Street Program face particular challenges in their shared goal to strengthen the Downtown as a pedestrian-friendly village center. Route 102 functions as a "fire hose" of through traffic, particularly at commuting hours. This makes it difficult, if not dangerous, for downtown pedestrians and shoppers to cross the streets. It discourages both pedestrian and driving potential shoppers who might otherwise stop and browse in Derry's downtown stores and restaurants, thereby also significantly affecting the downtown economy and revitalization initiative. A Town-commissioned study is underway in 2001 to analyze traffic related to the new Town municipal complex in the Downtown.

Conventional transportation improvement approaches for downtown Route 102/Broadway that would facilitate through traffic – such as road widening, additional lanes or turning lanes – might ease congestion and risk for through traffic but would likely also prove a major, further deterrent to bringing about a pedestrian-friendly Downtown. Additional or wider lanes present even greater barriers to pedestrians considering crossing the street, even if additional signalization and pedestrian crossings are added. Further, widening Broadway in the Downtown center would likely require moving or even demolishing some downtown buildings, several of which are historic structures that contribute to the character of the Downtown. One proposed upgrade alternative for Route 102 contained in the Exit 42 environmental impact statement (August 8,2000) identifies over ten downtown structures, several of these potentially historic, that would be affected by transportation improvements such as road widening or turning lanes on this central section of Route 102.

Clearly, the challenge of preserving the Downtown, fostering pedestrian activity, and smoothing passage for substantial volumes of through traffic is a complex and daunting one. While the new Exit 4a will alleviate that volume to some degree, the challenge of the pedestrian/traffic interface in the Downtown will remain, calling for creativity and innovation in design of new solutions.

Pathways

A major initiative to develop a four-mile pathways loop connecting downtown locations, aided by federal, state, and other funding sources, is underway. This pedestrian and bike trail will make it possible for Derry residents, particularly those living in neighborhoods near the Downtown, to get to the Town's center by means other than driving. A further phase of the project, in the planning stages, will address connector routes to neighboring towns, including Auburn and Chester.

GOALS AND OBJECTIVES

Derry's goals for circulation are to:

- Achieve location, design, and construction of Exit 4a on I-93 so that it will provide access to Derry's industrial areas and decrease traffic volumes on Routes 102 and 28.

- Reduce congestion and hazard risks through continuing in-town programs of transportation improvements.

- Seek creative solutions to the Downtown traffic/pedestrian interface.

- Strengthen pedestrian and bicycle access through continued support and development of such efforts as the Pathways bike and trail system.

IMPLEMENTING ACTIONS

The following actions are identified to implement Derry's goals for circulation:

- Undertake a planning charrette and/or traffic and transportation study that examines the combined functions of Route 102 both as Derry's main street and as a major east-west thoroughfare, and which proposes alternative scenarios to address the traffic, transportation, and pedestrian challenges resulting from this dual role. Include in this study:

  – Possible parallel routes to Broadway;
  – Possible expansion of side streets in the Downtown;
  – Additional routes in and to the Town's industrial area.

  [also in the Downtown Element].

- Create new parking opportunities in the Downtown through a combination of approaches such as:

  – Developing parking areas to serve Opera House, Town Hall, businesses;

  – Exploring acquisition of several small tracts throughout the Downtown to balance parking needs throughout the District;

  – Revise site plan review requirements and zoning regulations to encourage private parking areas that can be used by multiple businesses;

  – Exploring multi-level parking facilities if and where suitable;

  – Exploring the possibility of paying "access fees" in lieu of on-site parking provision.

  [also in the Downtown and Economic Development Elements].

- Continue efforts to reduce risk and alleviate congestion at "trouble spot" locations such as Ross's Corner, the Broadway/Crystal/Birch intersection, and the By-Pass rotary.

- Explore, promote and expand alternatives to vehicle travel in Derry, such as regional transit, in-town shuttles, carpooling, employer-sponsored shuttles and ride-sharing.

- Consider the inclusion of transportation demand management approaches, including incentives for reducing vehicle trips, in review of new development proposals and in economic development approaches such as financing and siting assistance.

- Revise Derry's Zoning, Subdivision Regulations, and Site Plan Review Regulations consistent with these goals and objectives, including such provisions as:

- Encouraging shared driveways and shared parking between adjacent lots to reduce multiple ingress/egress movements;

- Increasing the allowed distance between curb cuts on major roadways, and developing a mutually agreeable policy with state highway officials about increased curb cut distance on state roads;

- Developing access management standards to help reduce traffic congestion and risk.

- Examine opportunities in the Town's road standards and other regulations to allow new roads to better resemble narrower, traditional country roads where appropriate.

REFERENCES

"Crystal Avenue Corridor Plan", Southern New Hampshire Planning Commission, undated.

(Draft) Exit 4a Environmental Impact Statement, Costello, Lomasney & de Napoli, Inc., August 8, 2000.

"Ross' Corner Transportation Study", Costello, Lomasney & de Napoli, Inc., October, 1998.

April 9, 2001