

### 4.2.3 Mitigation

The Project is needed to address projected 2040 traffic volumes and would result in beneficial effects along NH 102 and at nearby intersections. Anticipated future traffic demand is addressed through the design of the project, and through the Town of Londonderry's site plan review process for each development phase of the Woodmont Commons PUD. As a result, no additional traffic mitigation is proposed.

## 4.3 Land Use, Zoning, and Public Policy

This section addresses land use, zoning, and public policy. Parks, recreational resources, and conservation lands are discussed in Section 4.19.

Transportation projects may affect land use both directly and indirectly. Direct land use impacts may include changes in land use from ROW acquisition and residential and/or business displacements to accommodate new or expanded transportation facilities. Changes in land use because of a transportation project, or the transportation project itself, may be inconsistent with future land use plans and goals put forth in municipal and regional plans and regulations. Finally, transportation projects may influence the location and form of future development by making some areas relatively more accessible and therefore more attractive for development. This type of induced growth effect, along with related potential impacts on land use patterns and environmental resources, is evaluated in Chapter 5.

### 4.3.1 Affected Environment

In NH, land use is regulated at the local level by municipalities through zoning and subdivision regulations. Zoning ordinances regulate land uses by area and the type and form of built improvements allowed within each land use. Subdivision ordinances seek to control the density of development on new parcels of land. Land use can also be influenced by other public policy goals expressed as part of land use, transportation, and infrastructure planning processes.

Current land use and zoning conditions were identified using GIS datasets of land use by tax parcel and zoning district boundaries provided by the Towns. In addition, the data were supplemented with reference to the Towns' zoning ordinances (Town of Derry, 2016a; Town of Londonderry, 2016). The study area for the analysis of direct effects to land use was defined as the land area within 500 feet of the proposed alternative alignments, which corresponds to the study area for direct effects to noise levels (Figure 4.3-1). Field visits and windshield surveys were used to verify land use conditions.

Land use policies and plans for the Project area were identified through a review of the following comprehensive and master plans:

- Master Plan of Derry (Town of Derry, 2010)
- Comprehensive Master Plan of Londonderry (Town of Londonderry, 2013)
- Southern New Hampshire Planning Commission's Moving Southern New Hampshire Forward: 2015-2035 Regional Comprehensive Plan (SNHPC, 2014)

This section summarizes land use and zoning along the Build Alternative corridors (A, B, C, D, and F), as well as municipal land use plans in Derry and Londonderry. Regional land use patterns and land use policies are discussed in Chapter 5, *Indirect Effects and Cumulative Impacts*.

## Land Use

Land uses along Alternatives A, B, C, and D include commercial, industrial, single-family and multi-family residential, institutional, civic, and open space. Alternative F runs along NH 102 through downtown Derry, and the land uses are primarily commercial and residential with other uses including institutional, civic, recreational (golf course), and industrial. Land uses along the alignments are described in more detail in the following sections and shown in Figure 4.3-1.

### *Alternative A*

Between I-93 and the Londonderry-Derry town boundary, land use is open space/undeveloped; however, the land is slated for future development as part of the Woodmont Commons PUD. From the town boundary along Madden Road, land use is a combination of single-family residential and industrial. The alignment crosses a planned future segment of the Rail Trail adjacent to the Madden Road intersection (see Section 4.19). After the intersection of Madden Road and North High Street, land use on the north side of North High Street is commercial, and land use on the south side of North High Street is residential (single- and multi-family) with a small area of open space adjacent to the curve of North High Street. East of the Franklin Street intersection, North High Street becomes Folsom Road. Land use along Folsom Road between Franklin Street and Claremont Avenue is single- and multi-family residential with one undeveloped parcel. Between Claremont Avenue and Crystal Avenue (NH 28), land uses are commercial and civic north of Folsom Road and single-family residential and commercial south of Folsom Road. The civic use is associated with the Greater Derry Salvation Army (18 Folsom Road), which serves the Towns of Derry, Londonderry, and Windham. At Crystal Avenue, Folsom Road becomes Tsienneto Road. Between Crystal Avenue and North Main Street (NH 28 Bypass), land uses on the north side of Tsienneto Road are industrial and undeveloped, while land uses on the south side are commercial, multi-family residential, and undeveloped. East of North Main Street to the eastern project terminus at Chester Road (NH 102), land uses along the north side of Tsienneto Road are institutional, commercial, civic, and single- and multi-family residential, with a few small parcels of undeveloped land. Land uses on the south side of Tsienneto Road are mainly single- and multi-family residential, with one parcel in institutional use adjacent to North Main Street and two parcels in commercial use near NH 102. The Greater Derry Salvation Army is the only community facility along the alignment for Alternative A.

### *Alternative B*

Between I-93 and the Londonderry-Derry town boundary, land use is open space/undeveloped; however, the land is slated for future development as part of the Woodmont Commons PUD. From the town boundary, Alternative B continues to traverse undeveloped land and the planned future segment of the Rail Trail (see Section 4.19) until it reaches the Franklin Street Extension. Along B Street between the Franklin Street Extension and Manchester Road (NH 28), land uses north of B Street are primarily commercial and industrial with a small area of undeveloped land near the Franklin Street Extension. Land uses south of B Street are primarily commercial and industrial with a small area of residential use along the Franklin Street Extension. Between NH 28 and North Main Street (NH 28 Bypass), land uses near NH 28 are commercial and industrial, and then they transition to open space/undeveloped land and single-family residential as the alignment for Alternative B approaches North Main Street. Between North Main Street and Scenic Drive, land uses on the north side of the alignment are single-family residential,

undeveloped land, and commercial. Land uses on the south side of the alignment are single-family residential, civic, undeveloped, and commercial. East of Scenic Drive, land uses along the alignment are primarily undeveloped land and single-family residential with small areas of commercial use at the project terminus (Chester Road/NH 102). Along the alignment for Alternative B, there are no community facilities.

### *Alternative C*

Between I-93 and Rockingham Road (NH 28), land use along the north side of the alignment for Alternative C is a combination of open space/undeveloped, commercial, industrial, and single-family residential. Land use on the south side of the alignment is primarily open space/undeveloped, with a small area of single-family residential, commercial, and industrial uses near Rockingham Road. As the alignment travels along Rockingham Road to the intersection with Seasons Lane, land uses are undeveloped land and single-family residential. At the Rockingham Road/Seasons Lane intersection, NH 28 becomes Manchester Road, and the roadway (and alignment) crosses the Londonderry Rail Trail (see Section 4.19). Along NH 28 south of Seasons Lane, land use is primarily commercial, with areas of single-family residential, institutional, and civic (municipal) uses west of Scobie Pond Road. South of Ashleigh Drive, the alignment for Alternative C joins the alignment for Alternative B. Between Manchester Road (NH 28) and Chester Road (NH 102), land uses along Alternative C are the same as those described for Alternative B. Along the alignment for Alternative C, there are no community facilities.

### *Alternative D*

From I-93 to Rockingham Road (NH 28) south of Ashleigh Drive, the alignment for Alternative D follows the alignment for Alternative C. South of Ashleigh Road, Alternative D continues along NH 28 to Tsienneto Road. Land uses along this portion of the alignment are commercial and industrial, with a small area of undeveloped land near Ashleigh Drive and civic land use on the northwest corner of the intersection of Crystal Avenue and Folsom Road. At the intersection between Crystal Avenue (NH 28) and Folsom Road/Tsienneto Road, Alternative D joins the alignment for Alternative A. Along Tsienneto Road, from Crystal Avenue to Chester Road (NH 102), land uses along the alignment for Alternative D are the same as those described for Alternative A. Along the alignment for Alternative D, there are no community facilities.

### *Alternative F*

Alternative F includes improvements to Broadway (NH 102) in Derry between Londonderry Road/St. Charles Street and North/South Main Street (NH 28 Bypass). Along NH 102, between the western project terminus and the intersections of Broadway with Elm Street and West Everett Streets, land uses are single- and multi-family residential and commercial, with one parcel in institutional use at the NH 102/West Everett Street intersection. Between West Everett Street and Central Street, land uses are a combination of commercial, residential (single- and multi-family), and civic uses. NH 102 crosses the Rail Trail (see Section 4.19). Between Central Street and the intersection of NH 102 with Boyd Road and Fenway Street, land uses include a combination of commercial, institutional, and multi-family residential. Between Boyd Road and Hood Kroft Drive, land use is residential (single- and multi-family) and recreational. The recreational parcel is a golf course (Hoodcroft Country Club) and is discussed in more detail in Section 4.19. Between Hood Kroft Drive and the eastern project terminus, land uses are a combination of

commercial, residential (single- and multi-family), recreational, civic, open space, and industrial. Table 4.3-1 lists community facilities along the alignment for Alternative F.

**Table 4.3-1. Community Facilities within 500 feet of Alternative F**

Name	Address
Marion Gerrish Community Center	39 W Broadway, Derry, NH 03038
Adams Memorial Opera House	29 W Broadway, Derry, NH 03038
Derry History Museum	29 W Broadway # 6, Derry, NH 03038
Community Park/Farmer’s Market	Intersection of Broadway and Manning
Derry Friendship Center	6 Rail Road Avenue, Derry, NH 03038
The Vineyard Community Church	Near 11½ E Broadway
Banister Family Dentistry	1 Birch Street, Derry, NH 03038
First Baptist Church	44 E Broadway, Derry, NH 03038
Masonic Temple	58 E Broadway, Derry, NH 03038
St. Luke’s United Methodist Church	63 E Broadway, Derry, NH 03038
Derry Public Library	64 E Broadway, Derry, NH 03038
MacGregor Park	64 E Broadway, Derry, NH 03038
First Church–Christ Scientist	1 Boyd Road, Derry, NH 03038
Hoodcroft Golf Course	121 E Broadway, Derry, NH 03038
Scott Copeland DDS	132 E Broadway, Derry, NH 03038
Pinkerton Academy Athletic Field	10 North Main Street, Derry, NH 03038

Source: Town of Derry (2017a); Derry Rail Trail Alliance (2017); Londonderry Conservation Commission (2014)

**Zoning**

Zoning along the Build Alternatives is shown in Figure 4.3-2. Table 4.3-2 provides a list of the zoning districts within 500 feet of the alignments for the Build Alternatives (study area). In the following section, the permitted uses in each zoning district are summarized by alternative (Town of Derry, 2016a; Town of Londonderry, 2016).

**Table 4.3-2. Zoning Districts**

Name	Town
Agricultural-Residential	Londonderry
Commercial II	Londonderry
General Commercial	Derry
General Commercial 2	Derry
Industrial I	Londonderry
Industrial II	Londonderry

Name	Town
Industrial 4	Derry
Medium High Density Residential	Derry
Medium High Density Residential 2	Derry
Multi-Family Residential	Derry
Medium Density Residential	Derry
Low Density Residential	Derry

Source: Town of Derry (2016a), Town of Londonderry (2016)

*Alternative A*

Between I-93 and North Main Street (NH 28 Bypass), zoning districts along Alternative A include industrial, commercial, medium high density residential, and multi-family residential. Between North Main Street and Chester Road, a small commercial district is located adjacent to North Main Street on both sides of Tsienneto Road, and the remainder of the Project area is zoned as medium density and low density residential.

The industrial I (Londonderry) and industrial 4 (Derry) allow a variety of permitted uses. Industrial I allows the manufacture of various products; large scale uses such as warehousing, storage, freight, and sand and gravel pits; agricultural and forestry uses; and wireless communication facilities. Industrial 4 permits all of the uses outlined for industrial I as well as retail sales establishments, restaurants, commercial service establishments, indoor commercial recreational facilities, office buildings, hotels, and automobile repair and service facilities.

The general commercial district allows for a wide range of commercial uses as well as single-family housing. The purpose of the general commercial 2 district is to encourage uses that fit existing infrastructure and land within the district and provides the potential to increase the commercial tax base as well as employment opportunities for local residents.

The multi-family residential zoning districts allow the following residential uses: single-family detached dwellings, two-family dwellings, multi-family dwellings, and accessory apartments. The medium high density residential district permits the uses outlined in the multi-family residential district as well as commercial performing and fine arts schools and studios and private schools. The medium high density residential 2 district limits dwellings to single-family detached dwellings and accessory apartments.

The medium density residential zoning district permits single-family detached dwellings (conventional subdivisions), manufactured housing subdivisions, accessory apartments, campgrounds, production or sale of farm produce by residents, and community-oriented recreational facilities (e.g., YMCA).

The low density residential district permits single-family detached dwellings (conventional subdivisions) and wireless communication facilities in the telecommunications overlay zone. No overlay zones are mapped for the Project area.

### *Alternative B*

Between I-93 and North Main Street (NH 28 Bypass), zoning districts along Alternative B include industrial and medium density residential. Between North Main Street and Chester Road, a small commercial district is located adjacent to North Main Street north of Tsienneto Road, and the remainder of the Project area is zoned as medium density and low density residential.

### *Alternative C*

Between I-93 and Rockingham Road (NH 28) and along NH 28 until a point near Scobie Pond Road, zoning districts along Alternative C include agricultural-residential and commercial. The Agricultural-Residential District is designed to permit uses that are compatible with and protective of certain areas that have been and are being developed for agricultural and forestry uses, water quality preservation, residential use, and public use. Londonderry designates five commercial subdistricts, for example, Subdistrict C-II is intended to encourage development of business areas to serve the motoring public.

Near Scobie Pond Road, the area is zoned as industrial until the alignment for Alternative C approaches North Main Street. The industrial II district is primarily a district that allows a more intensive industrial use than industrial I; however, the Londonderry Zoning Ordinance (2016) does not separate the districts using business type. Near North Main Street on the north side of the alignment, there is a medium density residential zoning district. Between North Main Street and Chester Road, a small commercial district is located adjacent to North Main Street north of Tsienneto Road, and the remainder of the Project area is zoned as medium density and low density residential.

### *Alternative D*

Between I-93 and Rockingham Road (NH 28) and along NH 28 until a point near Scobie Pond Road, zoning districts along Alternative D include agricultural-residential and commercial. Near Scobie Pond Road, the area is zoned as industrial until the alignment for Alternative D approaches Tsienneto Road. The intersection of NH 28 and Tsienneto Road includes a commercial zoning district. Between Crystal Avenue (NH 28) and North Main Street (NH 28 Bypass), zoning districts include commercial, multi-family residential, and medium high density residential. Between North Main Street and Chester Road, a small commercial district is located adjacent to North Main Street on both sides of Tsienneto Road, and the remainder of the Project area is zoned as medium density and low density residential.

### *Alternative F*

Alternative F travels through downtown Derry. Zoning districts along the portion of NH 102 to be improved include commercial, office business district, central business district, and medium high density residential.

The purpose of the office business district is to limit the land use activities that do not “greatly aggravate” the already serious traffic issues on West Broadway and would not result in a “severe detrimental impact” on existing residential uses in the district. The central business district is established to encourage appropriate uses within an area of the community where the predominant character has been and will continue to be historical, municipal, cultural,

residential, and commercial. The permitted uses in this district are allowed based on avoiding detrimental impact on existing uses.

### **Public Policy**

This section summarizes the comprehensive plans for Derry and Londonderry as related to land use and transportation goals.

As stated in the Town of Derry's Master Plan (2010), the town's vision is to be:

*"...an attractive, thriving community that has a strong sense of cohesiveness in all aspects of community and government; a balance between open space preservation and development while maintaining the Town's rural character; improving and maintaining a healthy economy; improving sustainable growth and development practices that contribute to good health, attractiveness and economic development in town; continued preservation of important historical sites and buildings; an increased effort to reduce the residential tax burden; the creation of Derry as a destination and improving upon drawing visitors and increasing economic development at a sustainable rate."*

To that end, the town identified goals related to land use to achieve the vision described in the Master Plan (Town of Derry, 2010). The goals are primarily related to promoting economic development in Derry while controlling and directing sustainable future growth. The Master Plan goals related to economic development include:

- creating a new commercial/industrial zone in the area north of Tsienneto Road and along Manchester Road in the area currently zoned as industrial;
- rezoning and expanding the area along the NH Route 28 corridor in the southern portion of the town to commercial;
- strengthening the economic character and development in the downtown area; and
- developing a town-wide economic development plan.

Master Plan goals related to directing and controlling growth consider:

- use of a historic overlay district to protect sites and properties from adjacent residential and commercial uses;
- continued use of the town's growth management ordinance; and
- a cost of community services study to determine how land uses should be balanced in the future in the Town of Derry.

The Master Plan also outlines goals for the transportation system, including addressing traffic and safety concerns, specifically at Danforth Circle and on Tsienneto Road at Crystal Avenue and NH 102; developing pedestrian-friendly streets, and continuing participation in the regional transportation funding programs for local and state transportation projects. Additional transportation-related goals focus on continued development of the bike trail and improvement of public transportation to link key areas within Derry. Derry's Master Plan identifies the proposed Exit 4A Project as a potential long-term solution to relieve traffic on NH 102 and promote the safe and efficient movement of people, goods, and services.

As stated in the Town of Londonderry's Comprehensive Master Plan (2013), the town's vision is to:

*"...remain a close-knit, vibrant community in the heart of protected forests and farms. Residents, businesses, and visitors should expect a government that works diligently to link development with quality of life, while strengthening community and economic vitality. Efficient Town services, inviting public spaces, and a top-tier school system make the Town a great place to live and raise a family. A highly-educated work force, proximity to a regional airport, and an efficient transportation system make the Town an ideal place to work and invest in new business."*

The guiding principles for this vision include stay "forever green", promote unique activity centers, emphasize housing choice and diversity, increase transportation choice and walkability, enhance the municipal advantage, and excel in education and town services. With regard to transportation, the goals outlined in the Master Plan include improving mobility, reducing congestion, and providing greater travel mode choice for Londonderry's residents. The primary focus for improving the transportation system includes expansion and improvement of existing infrastructure, reduction of the overreliance on motorized vehicles for daily travel needs, and implementation of a town-wide complete streets policy. The Master Plan does not mention the proposed Exit 4A Project; however, it has been considered in the Woodmont Commons PUD Master Plan (Pillsbury Realty Development, LLC, 2013). The Woodmont Commons PUD is planned on the east and west sides of I-93 near the Project. Based on discussions with the Town of Londonderry and the developer, the remainder of the Woodmont Commons PUD area (east and west of I-93) is anticipated to be built out by 2040. Additional discussion regarding Woodmont Commons is provided in Chapter 5.

### **4.3.2 Environmental Consequences**

The following sections include a discussion of compatibility of the No Build Alternative and the Build Alternative with land use, zoning, and public policy. Residential acquisitions and business displacements are discussed in more detail in Section 4.7.2, *Socioeconomics*.

#### **Land Use**

##### *No Build Alternative*

Under the No Build Alternative, the Project would not be implemented, and no changes to land use attributable to the Project would occur. No impact on community facilities would occur.

##### *Alternative A*

Under Alternative A, approximately 41.45 acres of new ROW would be required, and these takes would include 14 residential acquisitions and 25 business displacements, most of which are located in a single office complex. Implementation of Alternative A would provide direct Interstate access to commercial and industrial lands and be compatible with existing and future commercial and industrial uses. It could be incompatible with existing and future residential land uses, but it would be more compatible than Alternatives B and C, which have more low density residential use along their alignments. The Salvation Army of Derry (18 Folsom Road) would be displaced by Alternative A. No other community facilities would be affected.

### *Alternative B*

Under Alternative B, approximately 52.81 acres of new ROW would be required, and these takes would include 16 residential acquisitions and 11 business displacements. Residential acquisitions and business displacements are discussed in more detail in Section 4.7.2. Implementation of Alternative B would provide direct Interstate access to commercial and industrial lands and be compatible with existing and future commercial and industrial uses. It would be incompatible with existing and future residential land uses. No impacts on community facilities would occur.

### *Alternative C*

Under Alternative C, approximately 53.35 acres of new ROW would be required, and these takes would include 13 residential acquisitions and 2 business displacements. Residential acquisitions and business displacements are discussed in more detail in Section 4.7.2. Implementation of Alternative C would provide improved access to commercial and industrial lands and generally be compatible with existing and future commercial and industrial uses. It would be incompatible with existing and future residential uses. No impacts on community facilities would occur.

### *Alternative D*

Under Alternative D, approximately 43.20 acres of new ROW would be required, and these takes would include 2 business displacements (see Section 4.7.2). No residential acquisitions or impacts on community facilities would occur under Alternative D. Implementation of Alternative D would provide improved access to commercial and industrial lands and generally be compatible with existing and future commercial and industrial uses. It could be incompatible with existing and future residential use, but it would be more compatible with residential use than Alternatives B and C, which have more low density residential use along their alignments. No impacts on community facilities would occur.

### *Alternative F*

Under Alternative F, approximately 1.170 acres of new ROW would be required. Although no residential acquisitions would be required, Alternative F would result in 16 business displacements. These displacements are discussed in more detail in Section 4.7.2. Implementation of Alternative F would be incompatible with existing residential and commercial land uses and incompatible with future local planning goals for downtown Derry businesses. No acquisitions of community facilities would occur.

## **Zoning**

### *No Build Alternative*

Under the No Build Alternative, the Project would not be implemented, and no changes to zoning attributable to the Project would occur.

### *Build Alternatives*

As described in Chapter 5, *Indirect Effects and Cumulative Impacts*, presently, the Town of Derry is undertaking a study to determine whether to rezone several residential properties along North High Street currently zoned as medium-high density residential to an industrial zoning

category. Under Alternative A, these properties would have direct access to I-93. Under Alternative B, Franklin Street and Folsom Road could provide access for these properties to connect to I-93. These properties would not have access to I-93 under Alternatives C, D, or F. No other changes to zoning would be attributable to or affected by the Build Alternatives.

## **Public Policy**

### *No Build Alternative*

Under the No Build Alternative, the downtown Derry area would continue to experience high traffic volumes, and opportunities for enhanced economic vitality would not occur. Therefore, the No Build Alternative is incompatible with public policy related to the Derry and Londonderry master plans.

### *Build Alternatives*

Alternatives A and B would be compatible with public policy in that they would reduce traffic in downtown Derry and provide opportunities for economic development. Although Alternatives C and D would reduce traffic in downtown Derry, they would not provide additional opportunities for economic development beyond supporting the revitalization of the downtown area.

Alternative F would be incompatible with public policy in that it would not reduce through traffic in downtown Derry, would impact street parking in the downtown area, and would not provide opportunities for economic development.

### **4.3.3 Mitigation Measures**

Mitigation measures for potential impacts related to land use, zoning, and public policy have not been proposed. Section 4.7, *Socioeconomics*, discusses mitigation measures related to residential relocations and business displacements.

## **4.4 Air Quality**

### **4.4.1 Introduction**

Transportation projects may affect air quality in the vicinity of a project both temporarily and over the long term. During construction, suppliers and site workers would travel to the Project site by automobile and truck; once the new exit is complete, there is likely to be an increase in normal daily traffic in the immediate area. This increase in vehicular traffic may result in emissions of pollutants such as carbon monoxide (CO), particulate matter (PM), and the precursor pollutants that contribute to the formation of ground-level ozone (O<sub>3</sub>).

This section describes the standards used to assess air quality, the attainment status of the Project area, existing air quality monitoring data, potential air quality impacts associated with Project operation and construction, and mitigation measures for air quality impacts. The existing air quality was assessed by compiling measured data for existing and historical air quality conditions in the study area. The measured data compiled for ambient pollutant concentrations were compared to applicable air quality standards.