

Following the upgrade of NH 102, businesses and residences would front a wider road, diminishing the small town and historic characteristics of this portion of the corridor. The residential and commercial buildings would likely suffer from decreased distance from the edge of road to the existing buildings, loss of available parking, decreased access for pedestrians, and difficulty accessing properties.

### 4.6.3 Mitigation

In general, mitigation measures for visual impacts would include designing roadway elements, culverts, bridges, and other structures to be less intrusive. In visually sensitive areas, landscape screening and/or privacy fencing could buffer residences from impacts caused by adjacent development of, and improvements to, roadways. In particular, landscaping and plantings in the area of bridge abutments, retaining walls, and the interchange could be used to lessen visual impacts. During final design, mitigation measures for visual impacts would be further evaluated, and where practicable, incorporated into the design. For example, during final design, the use of more aesthetically pleasing construction materials could be considered for the underpass to accommodate the future Derry Rail Trail crossing.

## 4.7 Socioeconomics

This section addresses demographic and economic conditions and housing. For each topic, an introduction (including an overview of applicable regulations), data collection and analysis methodology, existing conditions (affected environment), and impacts are presented for the No Build and Build Alternatives. The potential impacts on minority and low-income populations are addressed in Section 4.8, *Environmental Justice*. Additional information related to population and employment projections is provided in Chapter 5, *Indirect Effects and Cumulative Impacts*.

### 4.7.1 Affected Environment

U.S. Census data (U.S. Census Bureau, 2015) are the primary source for information on socioeconomic conditions in the Project area municipalities (Derry and Londonderry). The Census block groups that intersect a 500-foot buffer of the alternative alignments were selected as the socioeconomics study area (Figure 4.7-1). Demographic and economic trends for the larger five-town study area are described in Chapter 5, *Indirect Effects and Cumulative Impacts*. The following section summarizes key demographic and economic indicators in the Census block groups along the Build Alternative alignments in comparison to the Project-area municipalities (Derry and Londonderry) and to Rockingham County.

### Demographics

Table 4.7-1 shows the total population with a breakdown of race and ethnicity for the Build Alternative alignment block groups, Project-area municipalities, and Rockingham County. The total minority population in the study area is 4.1 percent, with the percentage of minorities in the block groups ranging from 0.0 to 7.4 percent. The population of Derry is 3.8 percent minority, and the population of Londonderry is 3.5 percent minority. Hispanic persons comprise 3.1 percent of the population in the study area, with the percentage of Hispanic persons in the block groups ranging from 0.0 to 12.1 percent. Hispanic persons comprise 2.2 and 3.8 percent of the populations in Derry and Londonderry, respectively.

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**Table 4.7-1. Race and Ethnicity**

Census Tract	Block Group	Total Population	White Alone		Black or African American Alone		American Indian and Alaskan Native Alone		Asian Alone		Native Hawaiian and Other Pacific Islander		Some Other Race		Two or More Races		Minority Population Total		Hispanic		Non-Hispanic	
			No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
3301	1	2,156	2,106	97.7	0	0.0	13	0.6	14	0.6	0	0.0	0	0.0	23	1.1	50	2.3	42	1.9	2,114	98.1
3302	1	2,750	2,620	95.3	12	0.4	0	0.0	65	2.4	0	0.0	45	1.6	8	0.3	130	4.7	113	4.1	2,637	95.9
3400	1	2,401	2,244	93.5	93	3.9	0	0.0	45	1.9	0	0.0	19	0.8	0	0.0	157	6.5	72	3.0	2,329	97.0
3400	2	837	799	95.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	38	4.5	38	4.5	30	3.6	807	96.4
3400	3	1,814	1,779	98.1	35	1.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	35	1.9	0	0.0	1,814	100.0
3400	4	677	669	98.8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	8	1.2	8	1.2	27	4.0	650	96.0
3500	1	626	626	100.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	626	100.0
3500	2	2,619	2,547	97.3	35	1.3	0	0.0	12	0.5	0	0.0	0	0.0	25	1.0	72	2.7	0	0.0	2,619	100.0
3500	3	2,186	2,118	96.9	0	0.0	10	0.5	0	0.0	0	0.0	12	0.5	46	2.1	68	3.1	192	8.8	1,994	91.2
3701	1	1,455	1,348	92.6	52	3.6	0	0.0	0	0.0	0	0.0	47	3.2	8	0.5	107	7.4	176	12.1	1,279	87.9
3701	2	1,852	1,777	96.0	17	0.9	0	0.0	22	1.2	0	0.0	0	0.0	36	1.9	75	4.0	17	0.9	1,835	99.1
3703	2	2,310	2,206	95.5	104	4.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	104	4.5	28	1.2	2,282	98.8
3703	3	1,564	1,484	94.9	18	1.2	0	0.0	11	0.7	0	0.0	15	1.0	36	2.3	80	5.1	9	0.6	1,555	99.4
3901	1	2,637	2,495	94.6	0	0.0	56	2.1	13	0.5	0	0.0	26	1.0	47	1.8	142	5.4	97	3.7	2,540	96.3
Study Area Total		25,884	24,818	95.9	366	1.4	79	0.3	182	0.7	0	0.0	164	0.6	275	1.1	1,066	4.1	803	3.1	25,081	96.9
Town of Derry		33,202	31,925	96.2	332	1.0	23	0.1	447	1.3	0	0.0	237	0.7	238	0.7	1,277	3.8	740	2.2	32,462	97.8
Town of Londonderry		24,563	23,704	96.5	271	1.1	56	0.2	148	0.6	0	0.0	188	0.8	196	0.8	859	3.5	931	3.8	23,632	96.2
Rockingham County		299,006	284,738	95.2	2,237	0.7	363	0.1	5,551	1.9	0	0.0	1,466	0.5	4,651	1.6	14,268	4.8	7,369	2.5	291,637	97.5

Source: U.S. Census Bureau (2015)

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The median age within the study area is 41.3 years, similar to the median ages of Derry and Londonderry (39.7 and 41 years, respectively); Rockingham County median age is 43.5 years.

Table 4.7-2 shows median household income and percentage of residents living in poverty for Build Alternative alignment block groups, Project-area municipalities, and Rockingham County.

**Table 4.7-2. Income and Poverty Status**

Census Tract	Block Group	Median Household Income	Population Living Below Poverty (%)
3301	1	\$73,750	1.6
3302	1	\$59,643	5.3
3400	1	\$51,835	0.0
3400	2	\$35,205	3.7
3400	3	\$50,080	4.7
3400	4	\$53,097	7.4
3500	1	ND	ND
3500	2	\$40,060	3.9
3500	3	\$55,625	7.5
3701	1	\$78,618	0.8
3701	2	\$100,086	1.1
3703	2	\$72,344	1.9
3703	3	\$82,981	7.5
3901	1	\$62,951	0.3
<b>Study Area</b>		<b>\$61,551</b>	<b>3.4</b>
Town of Derry		\$65,723	7.9
Town of Londonderry		\$92,264	2.6
Rockingham County		\$81,198	5.5

Source: U.S. Census Bureau (2015)

Notes: ND – No data provided

### Housing

Table 4.7-3 shows the total number of households, occupied households, and of the occupied households, the number that are owner and renter occupied households for the study area, Project area municipalities and Rockingham County. Within the study area, 94.8 percent of the available housing is occupied, which is similar to the occupancy rates for Derry (95.7 percent) and Londonderry (96.7 percent). Rockingham County has a slightly lower occupancy rate of 92.3 percent. The study area contains a higher percentage of renter-occupied housing than the Towns or Rockingham County. About 44.2 percent of the occupied housing is renter-occupied in the study area compared to 37.0 percent in Derry, 14.4 percent in Londonderry, and 23.5 percent in Rockingham County.

**Table 4.7-3. Housing**

Census Tract	Block Group	Housing Units					Occupied Housing Units				
		Total	Occupied		Vacant		Total	Owner Occupied		Renter Occupied	
		No.	No.	%	No.	%	No.	No.	%	No.	%
3301	1	853	821	96.2	32	3.8	821	627	76.4	194	23.6
3302	1	1,099	1,074	97.7	25	2.3	1,074	491	45.7	583	54.3
3400	1	1,020	929	91.1	91	8.9	929	599	64.5	330	35.5
3400	2	421	421	100.0	0	0.0	421	129	30.6	292	69.4
3400	3	815	777	95.3	38	4.7	777	364	46.8	413	53.2
3400	4	390	363	93.1	27	6.9	363	185	51.0	178	49.0
3500	1	266	266	100.0	0	0.0	266	174	65.4	92	34.6
3500	2	1,416	1,371	96.8	45	3.2	1,371	514	37.5	857	62.5
3500	3	1,185	1,054	88.9	131	11.1	1,054	113	10.7	941	89.3
3701	1	689	659	95.6	30	4.4	659	587	89.1	72	10.9
3701	2	705	638	90.5	67	9.5	638	629	98.6	9	1.4
3703	2	857	830	96.8	27	3.2	830	647	78.0	183	22.0
3703	3	634	634	100.0	0	0.0	634	446	70.3	188	29.7
3901	1	1,136	1,046	92.1	90	7.9	1,046	569	54.4	477	45.6
<b>Study Area Total</b>		<b>11,486</b>	<b>10,883</b>	<b>94.8</b>	<b>603</b>	<b>5.2</b>	<b>10,883</b>	<b>6,074</b>	<b>55.8</b>	<b>4,809</b>	<b>44.2</b>
Town of Derry		13,609	13,020	95.7	589	4.3	13,020	8,207	63.0	4,813	37.0
Town of Londonderry		8,870	8,576	96.7	294	3.3	8,576	7,340	85.6	1,236	14.4
Rockingham County		127,944	118,095	92.3	9,899	7.7	118,095	90,387	76.5	27,708	23.5

Source: U.S. Census Bureau (2015)

## 4.7.2 Environmental Consequences

### No Build Alternative

The No Build Alternative would not involve new construction; no impacts associated with residential relocations or business displacements, property taxes, or community character and cohesion would occur.

### Build Alternatives

#### *Relocations and Displacements*

Table 4.7-4 provides a summary of partial and full parcel acquisitions for each Build Alternative, and Table 4.7-5 shows residential relocations and business displacements. For Alternatives A and B, the additional residential relocations are due to multiple residences on one parcel. The business displacements for all alternatives vary from the parcels acquired. In most cases where there is a full parcel acquisition, there are multiple businesses on one parcel. Additional discussions are provided in subsequent sections by alternative.

**Table 4.7-4. Parcel Acquisitions by Build Alternative**

Alternative	Residential Parcels				Commercial/Industrial Parcels			
	Full Acquisition	Partial Acquisition or Easement			Full Acquisition	Partial Acquisition or Easement		
		<0.1 acre	0.1-0.5 acre	>0.5 acre		<0.1 acre	0.1-0.5 acre	>0.5 acre
A	13	99	26	3	4	23	9	10
B	16	48	17	6	2	6	11	14
C	13	45	11	6	4	23	21	11
D	0	79	17	3	4	43	30	11
F	0	78	1	0	2	84	2	1

**Table 4.7-5. Residential Relocations and Business Displacements by Build Alternative**

Alternative	Residential Relocations	Business Displacements
A	14	25
B	19	11
C	13	2
D	0	2
F	0	16

### *Property Tax Impacts*

Taxable assessed valuation is calculated in this analysis, as well as an equalized valuation based upon 2017 property tax equalization ratios prepared by the NH Department of Revenue Administration. This is consistent with the methodology used in the 2007 DEIS analysis. This analysis reflects changes in the real estate economy that have occurred since the prior analyses.

Since the prior analyses, the economy has experienced a recovery from the so-called “Great Recession,” which began in late 2007 and continued into 2010. The assessed value of property increased by an annual average of 10.7 percent in Derry during the pre-recession years (2003 through 2007) and by 8.3 percent in Londonderry. The total value in Derry increased from \$1.79 billion in 2003 to nearly \$2.98 billion in 2007, for a cumulative increase of more than 66 percent. For Londonderry, the 2003 value was \$2.22 billion, increasing to \$3.31 billion in 2007, for a cumulative increase of a little over 49 percent.

During the Great Recession and immediately after (2008 through 2011), the assessed value of property in Derry declined by an annual average of 1.4 percent, from \$2.66 billion in 2008 to \$2.52 billion in 2011. In Londonderry, the average annual increase in valuation was nominal at 0.05 percent, increasing from \$3.39 billion in 2008 to nearly \$3.40 billion in 2011.

In the post-recession years (2012 through 2017), there has been recovery in the assessed values for both Derry and Londonderry. The average annual change for Derry has been 3.4 percent, less than half the pre-recession average annual change. For Londonderry the average annual change has been slightly less at 2 percent, also less than in the pre-recession years.

Over the 2003 through 2017 time-period, the average annual change in assessed value was approximately 3.2 percent for Derry and 3.8 percent for Londonderry. These metrics were used to update the 2017 assessed values and property data. This broader time span includes a full economic cycle of pre- and post-recessionary times.

The 2007 DEIS presented Alternative routes for the proposed Exit 4A access. In the 2007 DEIS, these included Alternative A (51.96), Alternative B (65.90 acres), Alternative C (64.44 acres), Alternative D (31.39 acres), and Alternative F (0.21 acre). Table 4.7-6 presents the estimated acquisition costs associated with these Build Alternatives. The properties and acreage presented in the DEIS are assumed constant in this SDEIS analysis. The 2004 taxable assessed value for the acquisitions, both in Derry and in Londonderry, as presented in the DEIS, are expressed in terms of the estimated 2017 taxable assessed values in Table 4.7-6. The 2004 values were updated to 2017 by compounding the annual rate of change in assessed value, per Town, over the 2004 to 2017 time, which is 1.76 percent annually for Derry and 3.25 percent for Londonderry. Property taxes derived from the 2017 assessed values were then calculated for each Town, using the FY 2017 tax rates. Equalized values were also determined for 2017 using each Town’s equalization ratio for FY 2017. The estimated costs of acquisitions for each Alternative are shown in Table 4.7-7 and range from \$281,826 (Alternative F) to \$9,690,710 (Alternative B).



**Table 4.7-6. Property Tax Impacts by Build Alternative**

Alternative and Town	Acres (2004) <sup>a</sup>	Taxable Assessed Value (2004) <sup>a</sup>	Taxable Assessed Value (2017) <sup>b</sup>	Estimated Property Taxes (2017) <sup>c</sup>	Equalized Value (2017) <sup>d</sup>
Alternative A	51.96	\$4,719,160	\$6,302,129	\$165,730	\$7,028,556
Derry	28.69	\$3,249,360	\$4,074,564	\$117,592	\$4,542,434
Londonderry	23.27	\$1,469,800	\$2,227,565	\$48,138	\$2,486,122
Alternative B	65.90	\$6,622,052	\$8,690,069	\$234,570	\$9,690,710
Derry	41.59	\$5,145,401	\$6,452,121	\$186,208	\$7,193,000
Londonderry	24.32	\$1,476,651	\$2,237,948	\$48,362	\$2,497,710
Alternative C	64.44	\$4,318,464	\$5,579,601	\$154,121	\$6,221,476
Derry	37.18	\$3,689,922	\$4,627,010	\$133,536	\$5,158,317
Londonderry	27.26	\$628,542	\$952,591	\$20,585	\$1,063,159
Alternative D	31.39	\$1,706,898	\$2,304,467	\$59,615	\$2,570,265
Derry	4.13	\$1,079,649	\$1,353,835	\$39,072	\$1,509,293
Londonderry	27.26	\$627,249	\$950,631	\$20,543	\$1,060,972
Alternative F	0.21	\$201,600	\$252,798	\$7,296	\$281,826
Derry	0.21	\$201,600	\$252,798	\$7,296	\$281,826
Londonderry	0	\$ -	\$ -	\$ -	\$ -

Source: Town of Derry (2018), New Hampshire Department of Revenue Administration (2017)

<sup>a</sup> As indicated in 2007 DEIS.

<sup>b</sup> Assessed value in 2017 \$ - inflated by town wide annual change in assessed value 2004-2017.

<sup>c</sup> Derry at \$28.86 and Londonderry at \$21.61.

<sup>d</sup> Derry at 89.7% and Londonderry at 89.6%.

Depending on the alternative selected, impacted properties would be revisited at the time of taking, and the cost of the takings would reflect that current year’s assessed value (as equalized) plus any premiums, hardships, or relocation expenses as may be required and appropriate. The loss of assessed value would reduce property taxes collected by the Towns from the acquired properties. Taxable building valuation losses are either partial or total, depending upon the ROW acquisitions.

*Community Character and Cohesion*

The Project alternatives may impact community or neighborhood character and cohesion in several instances. This type of impact can result when a new corridor is introduced (or expanded) through a residential neighborhood area in such a way as to disrupt the normal social or physical interaction of that neighborhood and thus, potentially affect its cohesion. Alternatives A, B, C, and D could have such impacts on residential areas that exist along the eastern portions of these alignments in the Town of Derry. In particular, a segment of Alternatives B and C would create a new road corridor from NH 28 to NH 102. This roadway would lie between the Barkland, Birchwood, and Brookview Drives neighborhood and Barka Elementary School. Although an

existing electrical powerline ROW currently runs along this same corridor, construction of a new roadway would create a further impediment within the neighborhood, particularly for pedestrian movement, as well as for school bus routes.

The westerly segment of Alternative A could also have a neighborhood impact in the residential areas of Derry that include Madden and Folsom Road corridors that would be upgraded as part of the A and B interchange alternative. Although much of the land use along this roadway segment is commercial or industrial, it also traverses along the northerly edge of a densely developed residential area. The widening of this road is not anticipated to create safety issues for vehicles and pedestrians originating from the homes in this neighborhood because the roadway is being redesigned and improved to accommodate the higher traffic volumes generated by a new interchange.

Community character can also be affected when special or significant locations are affected, such as a downtown area. Alternative F would involve removal of all on-street parking in downtown Derry. Such an action, even if mitigated with the creation of additional off-street parking, is likely to result in negative economic impacts on many of the small businesses located there. The downtown represents a unique commercial environment within the community, as well as a place that offers potential for social gathering and interaction. Loss of businesses and a degraded pedestrian environment would have an overall adverse impact on the functionality of this downtown area within the community.

### 4.7.3 Mitigation

#### *Relocations, Displacements, and Property Tax Impacts*

All relocations and displacements would be conducted in accordance with NHDOT's ROW Manual (NHDOT, 2011). As outlined in the manual, in addition to compensation for property acquisition, relocation assistance would be provided to residential, non-profit, and business owners displaced by the Project in conformance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. Advisory assistance would be supplied along with financial assistance to eligible displaced persons.

Real estate assessments would be reviewed by an independent appraiser to ensure that any property owner whose land is acquired to accommodate this project would be fairly treated and offered fair market value for the property. Any property owner or resident of property to be directly acquired with this project would be offered (as pertinent):

- Fair market value for the acquired property;
- Payments for moving and relocation costs;
- Replacement housing payments for home owners and/or tenants;
- Relocation advisory assistance services; and/or
- Residential mortgage interest differential payments and closing costs.

Any directly displaced businesses would be eligible for relocation benefits, including:

- Fair market value for the acquired property;
- Business re-establishment costs;

- Payments for actual reasonable moving expenses; and
- Relocation advisory assistance services.

Mitigation for property tax impacts is not proposed because impacts to the Towns would be negligible.

### *Community Character and Cohesion*

Neighborhood cohesion impacts, such as those noted above near the Barka Elementary School area, for Alternatives C and D, or in downtown Derry, for Alternative F, could be mitigated through various transportation improvements and pedestrian safety measures. These could include, but are not limited to, installation of sidewalks, crosswalks, and warning signals at appropriate locations, as well as sidewalk bump-outs or traffic islands where practical. The loss of on-street parking in the downtown could be offset through creation of new off-street lots that are strategically located to compensate those businesses that would lose spaces in front of their shops. Adequate signage could also be installed to direct motorists to these lots. Maintaining a safe and attractive pedestrian environment in the downtown would be challenging under Alternative F, but similar methods to those described above should be considered in this area.

## **4.8 Environmental Justice**

NEPA requires the evaluation of impacts of a proposed project “on the human environment,” particularly minority and low-income populations. Title VI of the 1964 Civil Rights Act requires federal agencies to ensure non-discrimination while implementing their programs and activities. Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, stipulates that each federal agency shall, to the greatest extent allowed by law, administer and implement its programs, policies, and activities that affect human health or the environment to identify and avoid “disproportionately high and adverse” effects on minority and low-income populations.

The U.S. Department of Transportation (USDOT) Order 5610.2(a), *Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, sets forth the USDOT policy to consider environmental justice principles in its programs, policies, and activities. FHWA Order 6640.23A, *Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, establishes policies and procedures for FHWA to use in complying with Executive Order 12898.

### **4.8.1 Affected Environment**

Council on Environmental Quality guidance provides that minority populations should be identified where either "(a) the minority population of the affected area exceeds 50 percent or (b) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis." FHWA encourages the use of the meaningfully greater threshold to identify potential minority populations and. defines a minority as a person who is:

- (1) Black: a person having origins in any of the black racial groups of Africa;