As with the freeway segments on I-74, the I-75 build conditions are not having a significant impact on SR 562 because the capacity of SR 562 is not changing. The eastbound freeway segment between I-75 and Paddock Road will operate at LOS E with the existing geometrics as well as any of the build alternatives in the AM design hour. Westbound State Route 562 will continue to operate at LOS D with any of the mainline alternatives.

Each of the four mainline alternatives analyzed offer improved operations over the existing geometrics; however, none of the alternatives reaches LOS D for the entire corridor, primarily due to the fact that traffic relocates to the I-75 corridor from other routes as capacity is added.

Consideration of Auxiliary Lanes

Capacity analyses have also been included for the freeway segments within the interchanges to aid in determining which locations should be further studied with respect to auxiliary lanes. While freeway segment analyses cannot be used to directly determine the benefit of an auxiliary lane, it can be used to determine which segments to study, because it details the difference in operational performance within interchanges and between interchanges.

Per AASHTO's Green Book, auxiliary lanes should be used in order to provide lane balance, supply adequate capacity, and/or improve route continuity. Based on the I-75 results summarized in this document, some segments of I-75 may need to be analyzed further with respect to auxiliary lanes; however, the number and location of the freeway segments investigated is dependent on the mainline alternative chosen and refined origin-destination information. At this time, no locations are being recommended for auxiliary lanes within the project limits based upon capacity analyses. The operational benefits of auxiliary lanes will be further evaluated in Step 6 of ODOT's PDP when certified traffic and origin-destination distributions can be evaluated and approved by ODOT's Office of Technical Services. Auxiliary lanes are, however, being recommended in some areas based upon geometric constraints, route continuity, and lane balance. The recommended locations are explained in the "Description of Mainline Alternatives" section of this document and will be further evaluated in Step 6.

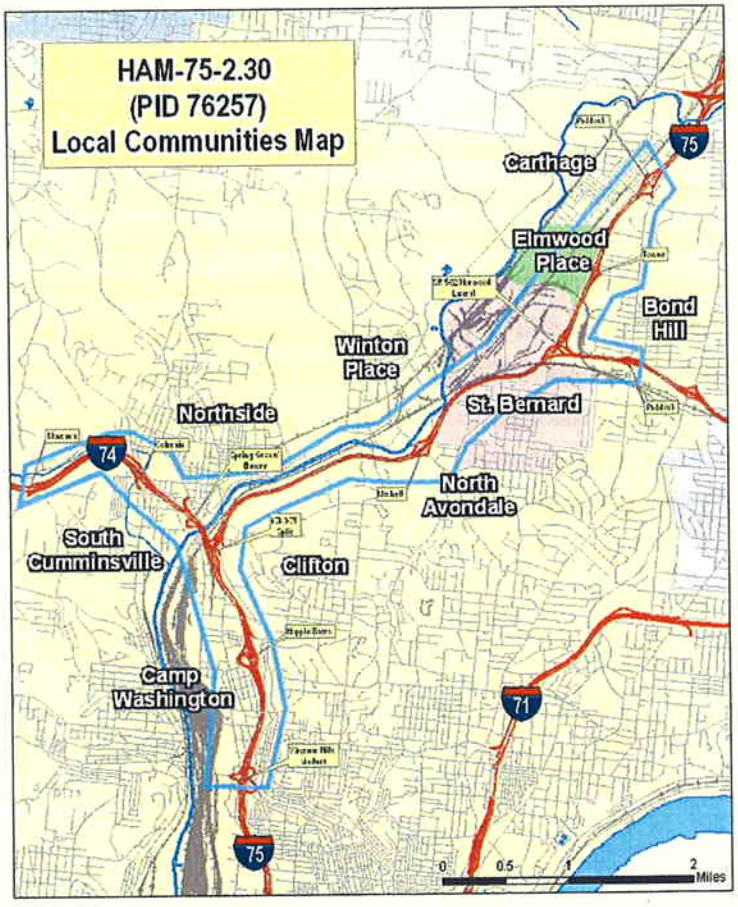
Social and Community Impacts

Community Description and Impacts. The I-75 Mill Creek Expressway study area encompasses several communities, including the City of St. Bernard, the Village of Elmwood Place and a portion of the City of Cincinnati. Within the latter, the neighborhoods of Carthage, Bond Hill, Winton Place, North Avondale, Clifton, Northside, South Cumminsville and Camp Washington (from north to south) are within the study area. The primary impacts to the communities are expected to be realized due to access changes, property impacts, relocations, noise and park impacts. This section will focus on the community impacts of proposed changes to access. Each of the remaining impacts is discussed in greater detail elsewhere in this document.

Elmwood Place: The relatively small Village of Elmwood Place (0.3 square miles) was incorporated in 1889 and is bound by Cincinnati's Carthage Neighborhood on the north, I-75 on the east, the City of St. Bernard on the south and the Mill Creek on the west. The village is mostly residential, with fewer than 3,000 residents, but includes a commercial district along Vine Street and industrial facilities along the Norfolk Southern Rail line.

The partial Towne Street interchange provides access to Elmwood Place via northbound I-75 ramps. There are no southbound I-75 ramps at the Towne Street interchange. Therefore, southbound traffic must utilize one of the adjacent interchanges.

The majority of southbound I-75 traffic accessing Elmwood Place and the surrounding businesses utilize the Paddock Road interchange about ¾ miles north of the Towne Interchange.



From the Paddock Ramp, drivers have several options to travel southbound into Elmwood Place; however, these three are the most highly traveled routes:

- Paddock Road northbound to Anthony Wayne Trail/Vine Street southbound (1 mile)
- Paddock Road southbound to Seymour Avenue westbound to Vine Street south (1.1 miles)
- Paddock Road southbound to Towne Street westbound (1.2 miles)

Additional ramps at Paddock Road (along SR 562/Norwood Lateral) and Mitchell Avenue (south along I-75) provide access to Elmwood Place.

From the NSTI it was recommended that the Towne Street interchange be closed due to travel and safety issues. The Mill Creek Expressway study has carried forward that recommendation based upon the safety analysis.

Traffic currently traveling eastbound on Township Avenue cannot turn northbound on Vine Street. To travel on I-75 NB, this traffic can continue through the intersection to the existing ramps. However, if the interchange is closed, that traffic would have to turn SB on Vine then EB on Murray then either NB or SB on Paddock to access either the I-75 ramp or SR 562 ramp. It is recommended that if the Towne Street ramp is closed that the Vine/Township intersection be improved to allow all movements. Additional information will be developed in Step 6 to illustrate the consequences of allowing the Towne Street interchange to remain open for comparison against an evaluation of the consequences of closing the interchange.

St. Bernard: Incorporated in 1878, St. Bernard is located directly south of Elmwood Place and is bisected by I-75. The City of St. Bernard has a population of roughly 5,000 persons within 2.5 square miles. The northern half of the city is predominantly industrial and includes the Norfolk Southern and CSX railroads. The southern half of the city includes the commercial and institutional center of St. Bernard, which is surrounded by mostly residential areas.

The Mitchell interchange on I-75 and the Paddock Road interchange on the Norwood Lateral (SR 562) provide access to St. Bernard. The Paddock Road interchange will remain as is and the Mitchell interchange is proposed to be improved, therefore allowing better connectivity to St. Bernard.

Carthage: The City of Cincinnati neighborhood of Carthage is home to roughly 2,500 people in 0.8 square miles located just west of the Paddock Road interchange off I-75. Minimal improvements are proposed at the Paddock interchange and will only improve access to and from the Carthage neighborhood.

Bond Hill: The Village of Bond Hill was originally established in 1886 and then annexed into the City of Cincinnati in 1903. The Bond Hill neighborhood is a predominantly older residential community that was mostly built following World War I in the 1920s. The neighborhood covers roughly 2 square miles and is home to over 10,000 people.

The Bond Hill neighborhood utilizes the Towne Street partial interchange and the Paddock Road interchange off Norwood Lateral (SR 562). The Paddock Road interchange will remain as is and the Towne Street interchange is proposed to be removed due to travel and safety issues. Additional information will be developed in Step 6 to illustrate the consequences of allowing the Towne Street interchange to remain open for comparison against an evaluation of the consequences of closing the interchange.

Winton Place: The Winton Place neighborhood has a population of approximately 2,600 people and includes a mix of residential, commercial and industrial land use within its 1.9 square miles. The residents of the Winton Place neighborhood utilize the Mitchell Avenue interchange to access I-75. Proposed improvements to the Mitchell Avenue interchange will only enhance the access to and from Winton Place.

North Avondale: The North Avondale neighborhood includes approximately 3,500 people in about 2 square miles. The neighborhood extends from I-75 to I-71 and is bordered on the north by St. Bernard, the southwest by the Clifton neighborhood and the south by the Avondale neighborhood. The residents of the North Avondale neighborhood utilize the Mitchell Avenue interchange to access I-75. Proposed improvements to the Mitchell Avenue interchange will only enhance the access to and from North Avondale.

Clifton: The neighborhood includes approximately 9,000 people in the densely developed 2.25 square miles. A gaslight district and Mt. Storm Park add a historic and recreational character to this diverse community. The Clifton neighborhood includes over 130 acres of parkland between Burnet Woods, Bowdle Park, Dunore Park, Edgewood Grove, Mt. Storm Park and Rawson Woods.

Residents of the Clifton neighborhood utilize the Mitchell Avenue interchange, I-74/I-75 interchange and Hopple Street interchange to access I-75. Proposed improvements to the Mitchell Avenue interchange will only enhance the access to and from Clifton.

The I-74/I-75 interchange currently provides access to and from the two interstate highways as well as local access to Central Parkway on the east and Elmore Street (Colerain Avenue) and Spring Grove Avenue to the west. These local access ramps create a safety and congestion hazard because of low speed ramps and weaving conditions because of short merge lengths. The Elmore/Colerain and Spring Grove ramps are currently utilized by residents of the Northside and

South Cumminsville neighborhoods and industrial uses along Spring Grove Avenue (William P. Dooley Bypass) and Dreman Avenue.

All of the alternatives at the I-74/I-75 interchange recommend the closure of the Elmore/Colerain ramp and the Spring Grove ramp. Their removal would potentially improve safety and reduce congestion at a fairly minimal impact to surrounding residents and businesses. The surrounding businesses are mostly light and heavy industrial uses that do not require close access to freeways like retail locations. By closing the Spring Grove loop ramp, traffic would have to travel an additional ¾ mile by taking Elmore Street WB to Beekman NB to I-74 EB. The potential closure of the Elmore Street/Colerain Avenue ramp would warrant that traffic continue WB on I-74 and taking the Colerain/Beekman (SR 27) ramp NB to Colerain SB requiring an additional 1.1 mile trip.

The I-74/I-75 Local Access Maintained alternative would construct new ramps from I-75 to Spring Grove Avenue at the intersection with Colerain Avenue.

One of the alternatives recommends the closure of the local access ramps to Central Parkway within the I-74 EB to I-75 NB ramp. That alternative is a system-only interchange eliminating all local access safety and congestion issues. The closure of these ramps would directly affect Cincinnati State Community College whose facilities are just east of the ramps and the surrounding Clifton neighborhood. Cincinnati State employees, students and teachers along with residents of the Clifton neighborhood would be forced to utilize the Hopple Street interchange to the south (2.2 miles of additional travel). Another alternative reconstructs the local access ramps to Central Parkway to create and standard T-type intersection.

The Hopple interchange provides direct access to all of the Uptown neighborhoods (which includes Clifton) in addition to the Cincinnati Zoo and Botanical Gardens, University of Cincinnati, Xavier University and numerous hospitals and other cultural facilities. The Hopple Street interchange alternatives have the potential to result in substantial benefits to the Uptown area. The existing skewed intersection of Central Parkway and MLK Boulevard is currently a safety and congestion hazard that not only affects intersection traffic, but adjacent intersections into the Uptown area to the east and west along Hopple. Improvements to the Hopple interchange would correct this arterial intersection, having a positive impact to this area by reducing congestion, improving safety, and creating the potential for a gateway into the Uptown area.

Northside: The Northside neighborhood is home to 10,500 people in approximately 1.8 square miles. The neighborhood is bounded by I-74 and I-75 on the south, Mt. Airy Forest on the west, the Spring Grove Cemetery and Winton Place on the east and the College Hill neighborhood on the north. The community is predominantly residential, but includes an aging industrial base in its most southern reaches.

Residents of the Northside neighborhood utilize the I-74/I-75 interchange and the Colerain Avenue/Beekman Street interchange. The impacts of the proposed closure of the local ramps that are a part of the I-74/I-75 interchange are included in the Clifton neighborhood description. The closure of the local ramps would potentially increase travel times for Northside residents accessing I-75 via the nearby Colerain/Beekman interchange.

The Colerain/Beekman interchange was originally meant to be a service interchange connecting I-74 with the proposed Colerain Connector. Therefore, the interchange is overbuilt for the current and potential future conditions. In addition, the Beekman NB to I-74 EB movement does not currently exist. Traffic coming from the Camp Washington and South Cumminsville neighborhoods must take Beekman NB to Elmore EB to Colerain SB to the Spring Grove loop ramp. The Spring Grove loop ramp provides access only to I-75 SB, there is no NB I-75 access.

The proposed improvements for the Colerain/Beekman interchange would all include the addition of the Beekman NB to I-74 EB ramp, improving service to Northside, South Cumminsville and Camp Washington.

South Cumminsville: The relatively small (0.87 square miles) South Cumminsville is home to over 4,400 people in the predominantly residential neighborhood. The neighborhood is bordered by I-74 to the north, the North Fairmount neighborhood to the west, the Mill Creek to the east and the Camp Washington neighborhood to the south.

The residents of South Cumminsville access I-75 via the Colerain Avenue/Beekman Street interchange along I-74 and the Hopple Street interchange along I-75. Proposed improvements to both interchanges will improve access to and from South Cumminsville. Details of the Colerain/Beekman access improvements are located in the Northside neighborhood write-up and the Hopple access improvements are included in the Clifton neighborhood write-up.

Camp Washington: Because of its proximity to the CSX Queensgate Yard, the neighborhood of Camp Washington contains a mix of industry related to the railroad along with pockets of commercial and residential. Just over 1,500 people call the Camp Washington neighborhood home, but over twice that work within the neighborhood.

The Camp Washington neighborhood is accessed by the Hopple Street interchange and proposed improvements will only improve that access. Details of the Hopple access improvements are included in the Clifton neighborhood write-up.

Land Use. Hamilton County is located in the southwest corner of Ohio. The county is bordered by the Ohio River and the State of Kentucky to the south and the State of Indiana to the west. The city of Cincinnati and a large majority of its metro-area are located within Hamilton County. The predominant land cover is the Mill Creek Valley bordered on either side by hills all within an urban setting. The I-75 corridor passes north-south through Hamilton County and the City of Cincinnati, and provides a connection between the states of Kentucky and Ohio.

The I-75 Mill Creek Expressway study area includes mostly commercial and industrial uses within the Mill Creek Valley and residential uses on the surrounding hillsides. The smaller communities of Elmwood Place and St. Bernard are located within the project area between Paddock Road and Mitchell Avenue, and include a mix of older residential homes combined with larger industrial plants. In addition, considerable portions of the study area are characterized by parkland (local and state) and railroad right-of-way.

Two noteworthy industrial centers are located on the northern and southern termini of the study area. On the north, stretching from the SR 562 to south of Mitchell Avenue, within the communities of Elmwood Place, St. Bernard and Cincinnati, are several large industrial plants surrounding the existing Norfolk Southern and CSX rail lines. On the south, stretching from I-74 to the Ohio River, is the CSX Queensgate Yard and the Norfolk Southern Gest Street Yard. Both of these massive rail facilities are surrounded by small and large scale industrial uses within the Mill Creek Valley.

Environmental Justice

Socioeconomic Characteristics. US Census Bureau data were utilized to generally characterize the existing socioeconomic conditions within the I-75 Mill Creek Expressway Study Area. Analysis of the project area census data versus City of Cincinnati, Hamilton County and the Cincinnati/Hamilton CMSA, conclusions were drawn that the project area is losing population compared to the region and that will directly affect employment now and into the future.

Environmental Justice Populations. EJ laws, regulations, and policies are found in Title VI of the Civil Rights Act of 1964, the National Environmental Policy Act of 1969, Title 23 of the United States Code, Section 109(h), the Uniform Relocation and Real Properties Acquisitions Policy Act of 1970, and – most recently – Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations.

Disadvantage Populations include minorities (racial and national origin), low-income, elderly, disabled, and households without a personal vehicle. The first two groups, minorities and low-income, are specifically protected by environmental justice (EJ) regulations. EJ principles, as defined by the Federal Highway Administration are:

- *To avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority populations and low-income populations.*
- *To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process.*
- *To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations.*

Environmental Justice data was collected for each census tract in the study area from the 2000 U.S. Census Bureau. Based on the EJ criteria, tracts with greater than 25% of the state average for disadvantaged populations are identified as noteworthy. The table on the following page illustrates the key disadvantaged populations within each Census Tract and includes an overall Census Tract average, Hamilton County, City of Cincinnati, Cincinnati-Hamilton CMSA and the State of Ohio data. In addition, the table illustrates the potential residential relocations within each census tract (further description is contained in the Property Impacts and Relocations section).

Environmental Justice Populations Analysis

Tract	% Minority	Median Household Income (dollars)	Per Capita Income (dollars)	% of Population Below Poverty Level	% of Population Over 65	% of Population with a Disability	Potential Residential Relocations 4-lane	Potential Residential Relocations 5/4-lane	Potential Residential Relocations Interchanges
27	25.3%	$30,446	$23,968	23.23%	6.88%	31.71%	0	0	0
28	30.5%	$23,352	$10,127	29.36%	7.90%	41.09%	0	0	4 (Hopple)
29	29.0%	$20,254	$16,051	25.54%	9.91%	18.89%	0	0	9 (Hopple)
61	11.3%	$27,364	$19,121	15.67%	13.97%	52.45%	0	0	0
64	93.5%	$32,923	$19,579	18.65%	15.72%	43.53%	0	0	0
70	35.0%	$35,927	$26,071	19.41%	10.30%	23.81%	0	0	0
71	14.4%	$34,643	$33,629	10.56%	18.08%	29.25%	0	0	0
72	25.5%	$27,074	$24,346	20.65%	6.92%	26.06%	0	0	0
73	50.6%	$31,571	$15,265	9.52%	8.47%	34.89%	0	0	0
74	43.1%	$25,932	$10,606	34.22%	7.42%	54.05%	0	0	0
77	93.3%	$11,120	$8,604	54.11%	7.66%	40.88%	0	0	1 (Colerain)
78	39.9%	$28,750	$17,361	23.19%	9.21%	41.07%	0	0	0
85.02	97.3%	$10,911	$6,079	59.90%	3.79%	22.29%	0	0	0
257	6.9%	$29,017	$13,466	18.91%	10.15%	49.12%	4	4	0
258	7.3%	$37,356	$18,036	8.69%	15.45%	29.69%	5	5	0
Average Per Tract	40.20%	$27,109	$17,487	27.10%	10.8%	34.9%	N/A	N/A	N/A
Hamilton County, Ohio	26.5%	$40,964	$24,053	11.56%	13.47%	29.66%	N/A	N/A	N/A
Cincinnati city, Ohio	46.3%	$29,493	$19,962	21.05%	12.27%	36.77%	N/A	N/A	N/A
Cincinnati--Hamilton, OH--KY--IN CMSA	14.2%	$44,914	$22,947	9.31%	11.68%	28.95%	N/A	N/A	N/A
Ohio	14.3%	$40,956	$21,003	10.60%	13.30%	16.80%	N/A	N/A	N/A

Source: US Census (www.census.gov), 1990-2000.

As a whole, the study area has a high concentration of minorities, percent of the population below the poverty level, persons with disabilities and low median household incomes. Six of the fifteen tracts have minority populations that are 25% higher than that of the state, and on average, the study area has a disproportionate share of minority persons (40.2%). Census Tracts 77 and 85.02 have over 50% of the residents living in poverty, and census tracts 61, 64, 74, and 257 have a considerable proportion of persons with disabilities. While the project is proposed to affect residential parcels in several census tracts, no one tract or environmental justice population bears disproportionate effects.

Parks and Recreation (Section 4(f))

Section 4(f) refers to consideration of property that is publicly owned parks and recreational lands, wildlife and waterfowl reserves and historic properties. From the initial Red Flag review, project area mapping and site visits, Section 4(f) areas were identified. From the Cincinnati Area Geographic Information Systems (CAGIS) mapping, eleven parks, recreational areas and playgrounds were identified. This section of this report is not intended to serve as a Section 4(f) evaluation, but merely to inform regarding the resources present within the project area and the potential for impacts. Should any of these resources be impacted, the Section 4(f) process will be used to ensure that no feasible and prudent alternative to the use of the land exists and that the action includes all possible planning to minimize harm to the property.

Impacts: Beekman Park is located in the Camp Washington neighborhood at the northwest corner of Beekman and Elmore. The park is mostly wooded and contains no active facilities. The Colerain/Beekman interchange improvements would potentially affect the park. Alternative COL-A likely would affect 0.1 acres and alternative COL-B, 0.1 acres. (See Exhibit A-7a and A-7b.)

Bank Avenue Park is located within the City of St. Bernard just north of the Mitchell Interchange. Interstate 75 borders the park on its western edge, a housing development to the north and the former Erie & Ohio Canal bed boarders the east and south. The park is the former location of the St. Bernard City Landfill and is subject to a Phase I ESA to determine the potential of encountering hazardous substances prior to construction activities. Currently the park includes a baseball and soccer field. The mainline alternatives would potentially affect 0.8 acres of Bank Avenue Park. (See Exhibit A-11.)

Maple Street Park is located within the Village of Elmwood Place and serves as their only baseball diamond. The park is bordered by I-75 on the eastern edge, and the surrounding residential neighborhoods on the north, south and west. The mainline alternatives would potentially impact 0.2 acres. (See Exhibit A-15.)

Mt. Storm Park, located within the Clifton neighborhood of Cincinnati, abuts the Mill Creek Expressway Project just north of the I-74 interchange on the south and east sides of the existing highway. The park sits on 57 acres of land that rises steeply from the highway to a grassy peak which includes a parking area, two shelters and a playground. The park is potentially affected by both the mainline alternatives (1.3 acres) and the I-74 interchange alternatives (alternative I75-A=0.6 acres and alternative I75-D=0.2 acres). (See Exhibit A-5a, A-5b and A-8.)

The Elmwood Place Park is located within the Village of Elmwood Place on the east side of Cedar Street, just north of Township Avenue. The park shares its eastern edge with the I-75 right-of-way. The small neighborhood park currently has a small swing set and a grassy area. The proposed I-75 widening would potentially affect 0.1 acres. (See Exhibit A-15.)

Through Step 5 of ODOT's PDP, no Section 4(f) determinations have been made. A Section 4(f) evaluation will be conducted during Step 6 of the PDP, during which time the Feasible Alternatives will be used to define any expected impacts to Section 4(f) properties.

Property Impacts and Relocations

Property impacts were estimated with GIS utilizing the CAGIS property information and a preliminary right-of-way limit. The impacts of the mainline alternatives are summarized in the table at right.

Mainline Alternatives	I75-A: 4-Lane Continuity	I75-D: 5/4-Lane
# of Residential Relocations	9	9
# of Commercial Relocations	6	8
Acreage Impacted	25.1 acres	25.6 acres
Number of Parcels	145	146

Each of the interchange alternatives was evaluated to estimate the property impacts and locations. In some cases, the interchange footprint is different depending upon which mainline option would be chosen. In those instances, impacts are shown for the worst case (5/4-Lane). The No Build alternative in each option would be assumed to have no property impacts.

	HOP-A	HOP-B1	I74-A	I74-B	COL-A	COL-B	MIT-A	NOR-A	TOW-A	PAD-A
# of Residential Properties	10	4	0	0	1	1	0	0	0	0
# of Commercial Properties	5	1	1	0	0	0	0	0	0	0
Acreage Impacted	5.9 acres	5.3 acres	9.1 acres	5.4 acres	2.7 acres	1.4 acres	1.3 acres	4.9 acres	0	1.3 acres
Number of Parcels	70	75	58	24	41	41	13	16	0	12

The Draft Relocation Assistance Program Conceptual Site Survey was completed on January 17, 2006. This survey identifies the number of families and businesses which may be displaced by the Mill Creek Expressway project and establish the probable availability of decent, safe and sanitary replacement housing for those families being displaced from homes and suitable replacement commercial sites for businesses being displaced.

Available Housing. A search of the project and surrounding area has produced an adequate amount of available housing for purchase. The homes to be affected are mostly, older, two story homes which appear to have double occupancy, which are most likely tenant occupied. There appears to be an adequate amount of rentals in the area for these displaced tenants. There are also several apartment buildings to be acquired. There are also an adequate number of apartment complexes in the Cincinnati area which would serve as replacement housing from the occupants of the apartment buildings. According to the Ohio Profile for Hamilton County, the average number of rental units in Hamilton County is 139,275 units, with a 7.1% vacancy, or 9,759 available rental units. Information obtained from the local publications, The Enquirer and The Post support an adequate number of rental vacancies currently within the project area (1,198). It was noted that within the information obtained from the Ohio Department of Development, the areas most affected by low income and poverty are located within or surrounding the project area, following the I-75 corridor.

The use of last Resort Housing provision will be utilized to assist renters and home buyers. It will be vital that the Relocation Counselors provide advisory services to the relocatees; including assistance in securing home loans and offering housing referrals. Relocating elderly usually takes more time. In addition, ODOT will need to provide substantial advisory services to all elderly displacees.

A visual inspection of the project area did not reveal any handicapped access ramps. However, the Census report does indicate there may be handicap situations in numerous households. It is possible these households will require modifications to their replacement homes to provide assistance due to a medical issue. The Relocation Assistance program may provide reimbursement for devices currently used at their residence if directed by their physicians (deemed medically necessary) to have the modifications performed.

For those households with incomes classified as low income by the U.S. Department of Housing and Urban Development, thirty percent of the displacee's average gross household income will be utilized instead of economic rent when computing a replacement housing payment. This method often causes the housing payment to fall into the category of Last Resort Housing.

Effects on the Community. This project was discussed with many local officials as to the impact of the project to the community. The local officials were asked if in their opinion, the project would have any divisive or disruptive effects on the community.

There appears to be an abundance of housing available for those remaining as tenants, and for those tenants who choose to become homeowners. There also appears to be an abundance of housing available for those owners of homes who will need to purchase new homes. One issue that will require advanced planning is the number of families that may need Section 8 housing. Until each family is interviewed, this will not be known. If a large percentage of households require Section 8 housing, it may be difficult to find available Section 8 housing for all of the households. It may be necessary to begin the relocation process with a portion of the tenants at an early date, as advanced acquisition, to assure enough units of Section 8 housing are available, as well as ensure that adequate advisory services are offered to the elderly and disabled.

The Camp Washington area will have the most households and businesses affected. The five businesses do not represent an adverse impact and should not be difficult to relocate within the area. The only area that may have an adverse impact is the City of St. Bernard. Available commercial properties within the city limits of St. Bernard are few and therefore the businesses that potentially could be acquired may need to relocate outside of the City.

Cultural Resources

A cultural resources literature review was completed December 16, 2004, by ASC Group within an approximately 1000 foot (305-meter) corridor centered on I-75 in southern Hamilton County, Ohio. The literature review identified 59 previously recorded history/architecture sites and three previously identified archaeological sites.

A Phase I History/Architecture field survey was completed June 30, 2005, by ASC Group. The study area was significantly narrowed from the literature review based on preliminary engineering. Essentially, a parallel corridor to I-75, varying between 200 and 550 feet (61 to 168 meters), was examined for history/architecture sites. Additional Phase I level information was requested for the Mt. Storm Park property and a subsequent documentation dated September 23, 2005 was completed by ASC Group.

Impacts: A total of 224 architectural locations within or immediately adjacent to the study area meet the 50-year threshold. Fifty-seven locations, 50 of which form a district, are recommended for further study to determine their eligibility for the National Register of Historic Places (NRHP). The Phase 1 history/architecture report of investigations has been coordinated with the Ohio Historic Preservation Office (OHPO) per Section 106 of the National Historic Preservation Act. OHPO has

concurred with these recommendations. Five of these properties, including the district, have the potential to be impacted by the proposed project. These properties include:

- B&O Railroad Depot (HAM-5141-45) – impacts totaling roughly 0.9 acres from both the 4-Lane and 5/4-Lane alternatives,
- St. Johns Cemetery (HAM-5168-45) – potentially affected by the Mitchell Interchange (0.1 acres) and both I-75 mainline alternatives (0.4 acres),
- Cincinnati Street Railway Substation (HAM-7628-40) – potentially affected by both I-75 mainline alternatives (less than 0.1 acres),
- Mt. Storm Park (HAM-7675-07) – potentially affected by the I-74 Interchange alternatives (0.6 acres for both alternatives),
- Rachel-Sidney Neighborhood (AL138-AL187) – the neighborhood will be affected both Hopple Interchange alternatives (0.5 acres for both alternatives).

A Phase II history/architecture evaluation will be completed on these five properties during Step 6 of ODOT's PDP. Also, when the exact right-of-way limits are defined for the project, a Phase I archaeological reconnaissance survey will also be completed. Should any historic properties be identified, Section 4(f) coordination will be completed.

Ecological Resources

Field investigations of the study area were conducted on June 20, 21, and 22, as well as on August 10 and 11, 2005. The aquatic resources and terrestrial habitats, as well as endangered and threatened species were examined according to the Ohio Department of Transportation (ODOT), *Ecological Manual (2005a)*. Preliminary findings are presented below. During Step 6, the ecological impacts for the feasible alternatives will be refined and presented in the Ecological Survey Report for review by regulatory agencies. Subsequent coordination will determine appropriate mitigation for impacts.

Aquatic Resources. Five streams, including Mill Creek, comprising approximately 2,898 linear feet, and one wetland comprising less than 0.1 acre were identified within the study area. No ponds were identified as occurring within the study area.

Impacts: Culvert installation represents the most severe primary permanent impact and results in a loss of aquatic habitat. Habitat loss is quantified by estimating the length of the proposed stream channel to be culverted. Channelization is the next most severe primary permanent impact. Channelization causes a reduction of aquatic habitat diversity, which is directly proportional to a reduction in fish, and macroinvertebrate species diversity. Impacts of this type are also quantified by the length of proposed channelization (in-stream work). The least severe primary aquatic

impacts generally occur during construction in uplands within a stream watershed and not necessarily within a stream. These types of impacts result from vegetation removal along stream banks that will indirectly affect aquatic habitats. These indirect impacts typically include stream water temperature increases due to removal of shading vegetation, and reduction of stream bank stability due to loss of soil-binding tree and shrub roots.

Secondary aquatic impacts will be limited to siltation during periods when soils in a stream's watershed are exposed during construction. These impacts can be limited through installation of temporary erosion protection during construction. However, some permanent aquatic habitats may receive additional silt during storms. To ensure siltation will be minimized to the fullest extent possible, ODOT will adhere to best management practices and their *Construction and Material Specifications Manual* (ODOT, 2005b).

The impact of construction, maintenance, and operation of the project to the aquatic resources are not expected to be significant since all of the streams within the study area are already culverted within the ROW and most of the study area streams are already subject to various stresses on an annual basis such as roadway and agricultural runoff.

The small wetland (less than 0.1 acre) is located in the ditch area of the southwest quadrant of the Colerain/Beekman interchange and may be impacted.

All ditches within the study area have been investigated to determine the presence of any of the criteria listed in the *Standard Operating Procedures for the Regulatory Program* (U.S. Army Corps of Engineers, 1999). It was determined that all of the roadside ditches within the study area did not meet any of the required criteria, therefore are considered non-jurisdictional and excluded from further study.

Overall, 848 linear feet of the five streams will be affected by the proposed improvements. The streams and their OEPA stream quality designation are as follows:

- Mill Creek: from I-275 to Center Hill Road which becomes Towne Street (WWH – Warmwater Habitat) and from Center Hill Road to Ohio River (MWH – Modified Warmwater Habitat)
- West Fork Mill Creek (LRW – Limited Resource Water)
- Unnamed Tributary to West Fork Mill Creek (Modified Class I PHWH)
- Unnamed Tributary to Mill Creek (Modified Class II PHWH)
- Unnamed Tributary to Mill Creek (no OEPA designation)

More specifically, the Mitchell Interchange will affect 90 linear feet, the I-74 interchange alternatives will affect 720 linear feet, and the Mainline 4-lane and 5/4-lane alternatives will affect 38 feet. The

Mill Creek Conservancy District is potentially affected by the 4-lane and 5/4-lane mainline I-75 alternatives, as well as the I-74 Interchange and Mitchell Interchange. The total potential affected area is 2.354 acres.

Terrestrial Habitats. The study area consists of 929.28 acres; of which the identified terrestrial habitats of the project area are residential/commercial/disturbed (743.91 acres), scrub/shrub (92.29 acres), and mixed deciduous forest (84.80 acres).

Impacts: The existing highway ROW is comprised of 48.97 acres of residential/commercial/disturbed habitat, which will be impacted. In the next phase, the terrestrial habitats for necessary new right-of-way can be calculated.

Endangered and Threatened Species. Field investigations did not reveal the presence of any state listed endangered, threatened, potentially threatened, or other rare plant species as occurring within the study area. No federally-listed threatened, endangered, proposed, or candidate species were identified within the study area.

The Indiana Bat Project Action Area (PAA) extends 2.5 miles on either side of I-75 centerline and 2.5 miles north and south of the project termini. The PAA contains approximately 42,879 acres of land, of which 8,522 acres are forested habitat which can provide alternative habitat for foraging and summer roosting (including maternity roosting) Indiana bats that may be using the forest area and/or free standing trees that will be impacted. No winter hibernacula for the Indiana bat were found or are known to exist within a five mile radius of the study area. Trees identified as potential roosting and brood rearing/maternity colony trees will be identified, marked, and mapped once the limits of construction are defined and prior to project construction.

Coordination with the U.S. Fish and Wildlife Service regarding Threatened and Endangerd Species issues is pending.

Impacts: No endangered species are expected to be impacted by the proposed widening of I-75.

The Ecological Survey Report will be coordinated with state and federal resource agencies to obtain comments on the project and impacts. ODOT will apply for and obtain all applicable state and federal waterway permits prior to construction in waters of the United States. For floodplain impacts, coordination will occur during detailed design with the local floodplain administrator.

Hazardous Materials

TranSystems Corporation conducted an Environmental Site Assessment (ESA) Screening of the I-75 Mill Creek Expressway project in January 2005. The ESA Screening was conducted in

conformance with the methods and procedures described in the *Ohio Department of Transportation Environmental Site Assessment Guidelines* (September 1, 1999).

According to the ODOT guidance, field reconnaissance and review of regulatory database and mapping information were undertaken to identify all suspect parcels within a transportation project corridor where current or historical activities may have resulted in impacts caused by deleterious wastes or hazardous materials and require further investigation during a Phase I ESA. The parcels evaluated under this ESA Screening included all potentially affected parcels within a 50-foot offset from the proposed project (construction) in each direction.

Based on the findings of the ESA Screening, TranSystems recommended 62 sites for Phase I ESA, with some sites including an Ohio State Fire Marshal Bureau of Underground Storage Tank Regulation (BUSTR) file review and an Ohio Environmental Protection Agency file review. ODOT concurred with these recommendations in their IOC dated September 13, 2005.

Impacts: Based on the anticipated construction limits, the list was reduced to the following 52 sites. The site name (if known) is shown along with the potential effects (mainline, interchange, or both):

Site Name	Potential Mainline Affects	Potential Interchange Affects
Bernard Laboratories	No Affect	I-74
Cincinnati Screen Printing – RCRA SQG	No Affect	SR 562
Cincinnati Wood Products	No Affect	No Affect
City of St. Bernard Fire Department – LUST	No Affect	No Affect
Commercial and office complex – RCRA SQG, LUST	No Affect	SR 562
Dixie Crane Rental – FINDS	4-lane & 5/4-lane	No Affect
Fay's Meats/Old service building	No Affect	Colerain/Beekman
Former Canal – Possible dumping – SPILLS	4-lane & 5/4-lane	No Affect
Former disturbed area with dump – MSL, DERR, RCRA SQG	4-lane & 5/4-lane	No Affect
Former Lagoon Liquid Chemical Dump	4-lane & 5/4-lane	SR 562
Former manufacturing	No Affect	No Affect
Former Midas Building	No Affect	I-74
General Casting Company and unknown commercial	No Affect	No Affect
General offices, Schroeder Paper, unknown industrial/commercial, container storage lot, junk auto lot	No Affect	No Affect
Givaudan Manufacturing – RCRA SQG	4-lane & 5/4-lane	Paddock
Holiday Inn	No Affect	Mitchell
Hummel Industries and Highcon Inc.	4-lane & 5/4-lane	No Affect
KOI Auto Parts	4-lane & 5/4-lane	I-74
Marathon Station – LUST-NFA, UST	No Affect	Mitchell
Mees Distribution	No Affect	Colerain/Beekman
New Horizons Meats – LUST	5/4-lane	Hopple
NS Rail Yard – Possible past landfilling – HIST LF, RCRA SQG	No Affect	SR 562
Office Complex - Offices, old storage building, and unknown commercial – LUST-NFA	4-lane & 5/4-lane	No Affect
Ohio Truck Equipment – RCRA SQG, LUST-NFA	4-lane & 5/4-lane	Mitchell
OXY Occidental Chemical – RCRA SQG, CERCLA-NFRAP, MSL	No Affect	No Affect
Paddock Auto Sales (former gas station)	No Affect	Paddock
Public Works Building – LUST	No Affect	No Affect
Rada Terminal, ROW, and Cincinnati Gas and Electric	No Affect	I-74
Rail and ROW – Possible surface dumping	4-lane & 5/4-lane	I-74
Rail and ROW, Phthalchem facility – Former manufacturing – RCRA LQG, SPILLS, MSL	4-lane & 5/4-lane	No Affect
Reliable Casting Corporation and vacant unknown commercial	4-lane & 5/4-lane	No Affect
Residential – formerly used for other purposes	4-lane & 5/4-lane	No Affect
Richlen Tool Inc.	4-lane & 5/4-lane	No Affect

Site Name	Potential Mainline Affects	Potential Interchange Affects
ROW – USTs	No Affect	No Affect
Shell Station	No Affect	Hopple
Spaulding Lighting, Inc.	No Affect	I-74
Spring Grove Sheet Metal	No Affect	No Affect
St. Bernard Landfill	4-lane & 5/4-lane	No Affect
St. Bernard Post Office	4-lane & 5/4-lane	No Affect
St. Bernard Self Storage and RV Parking	4-lane & 5/4-lane	No Affect
St. Bernard Service and Maintenance Department – LUST-NFA, UST	4-lane & 5/4-lane	No Affect
Sunoco gas station and adjacent disturbed parcels	No Affect	I-74
Trico Rentals	No Affect	No Affect
United Fabricating And Erection Company	4-lane & 5/4-lane	No Affect
United Maeir Signs – RCRA SQG	4-lane & 5/4-lane	No Affect
Unknown commercial	No Affect	I-74
Unknown industrial – LUST	No Affect	No Affect
Vacant unknown commercial parcels	No Affect	No Affect
W.R. Grace – LUST, RCRA LQG, TRIS	No Affect	SR 562
Welage Tool & Die Company	No Affect	Colerain/Beekman
White Castles Restaurant (former gas station) – RCRA SQG	No Affect	Hopple
Zero Breeze Roofing – RCRA LQG	4-lane & 5/4-lane	No Affect

The Phase I ESA activities will be undertaken in accordance with the *Ohio Department of Transportation Environmental Site Assessment Guidelines* (September, 1999) to further determine the potential of encountering hazardous substances from the suspect parcels prior to construction activities.

Noise Quality

The purpose of Part 772 of the Code of Federal Regulations (CFR) is to provide procedures for noise studies and noise abatement measures in order to help protect the public health and welfare, to supply noise abatement criteria and to establish requirements for information to be given to local officials for use in the planning and design of highways approved pursuant to title 23 of the United States Codes (USC) (23 CFR 772.1). The noise analysis for this project will be conducted in accordance with the FHWA Federal Aid Policy Guide, Subchapter H, Part 772, Procedures for Abatement of Highway Traffic Noise and Construction Noise and the ODOT guidelines contained in its Analysis and Abatement of Highway Traffic Noise document dated October 22, 2001.

As part of the Conceptual Alternatives Study, the study corridor was evaluated for potential noise sensitive areas (NSA). NSAs are areas sensitive to an increase in noise levels which are located within a distance of 500 feet of the study corridor. A total of twenty NSAs were identified consisting primarily of single and multi-family residential dwellings, with three parks, two motels and one school. Traffic noise levels were field measured at each of the twenty NSAs to identify existing year traffic noise impacts. The FHWA Traffic Noise Model (TNM) version 2.5 was used to identify potential design year traffic noise impacts based on projected traffic volumes. All 20 NSAs were identified as being currently impacted or potentially impacted as a result of the proposed project. TNM was further used to determine if noise abatement in the form of noise barrier walls would be a

feasible and reasonable noise abatement measure at impacted NSAs. The construction of noise barrier walls was proven to be a feasible noise abatement measure by obtaining a substantial noise reduction of 8 dB or more at 16 of the NSAS. Using the ODOT suggested cost of $280 per lineal foot, noise walls proved to be a cost reasonable abatement measure at 15 of the 16 feasible sites.

At this point of the study, noise abatement in the form of noise barrier walls would be feasible and reasonable at 15 of the 20 NSAs. The total estimated cost would be $5,698,000 for approximately 3.85 miles of noise barrier wall (Supporting information is located in Exhibit F).

Air Quality

Part 81 of the CFR provides procedures on air quality matters, which affect the public health and welfare and environmental quality of the natural and built habitat. The 1990 Clean Air Act is the cornerstone of these procedures and enforced by the U.S. Environmental Protection Agency (USEPA). Ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, particulate matter and lead are the six pollutant defined as indicators of air quality by the USEPA. Threshold concentrations are established for these pollutants and designated as National Ambient Air Quality Standards (NAAQS).

USEPA air quality designations are categorized by area as: non-attainment, attainment or unclassifiable. When an area does not meet the air quality it is designated as a non-attainment area. The 1-Hour Ozone Standard and the new 8-Hour Ozone Standard require monitoring of pollutant concentration being released into the atmosphere. The USEPA designates Hamilton County as a non-attainment area for the 1-Hour Ozone Standard from 1992 to the present. Hamilton County is also in non-attainment for the new 8-Hour Ozone Standard for 2004.

The OEPA/ODOT agreement states that a quantitative CO analysis is recommended for projects that modify existing facilities that cause an increase in Average Daily Traffic of more than 10,000 vehicles between project completion and ten years hence. Based on preliminary traffic numbers, it appears that the ten-year traffic increase will exceed the 10,000-vehicle maximum. As a result, it is anticipated that a quantitative CO analysis will be required.

Geotechnical Issues

The most significant geologic hazard within the project area is the occurrence of landslides. Previous studies show that landslides within the project area occur within the cut/fill slopes overlying the glacial deposits. The most notable areas where previous landslides have occurred are at the Mitchell Avenue interchange, along eastern hillside slopes above I-75 between I-74 and Mitchell Avenue, north of the I-75 overpass over Ludlow Avenue, near the I-74 interchange at the