

Currently, access to the St. Coletta School Historic District is from USH 18 and CTH Y. Access to Alverno Cottages is from CTH Y. Alternative C3 will not isolate these historic properties or change access to them. The proposed improvement would travel through lands that are currently agricultural and separate the historic district and Alverno Cottages from the City of Jefferson. These lands are within Jefferson's urban service area planned for future development. Alternative C3 would not impair the capability of these historic properties to perform their function with respect to either current land use or as historic resources. The existing noise level at both the St. Coletta School Historic District and Alverno Cottages is 55 decibels. For the design year, 2028 this level is predicted to remain at 55 decibels under Alternative C3, and would not approach the 67-decibel NAC level for schools, churches, and residences.

Alternative C4 is also an east side bypass of the City of Jefferson. This alternative is located about 1,600 feet (485 m) east of the St. Coletta School Historic District, and about 3,800 feet (1,160 m) east of Alverno Cottages. Due to the terrain of the area, there would be minimal visibility of this alternative from either historic site. Both Alternatives C3 and C4 would remove trucks from the existing route through the city, and would lessen noise levels at historic properties located in the city. Both will enhance safety features on the existing roadway such as pedestrian crossings and vehicular access at side roads due to reduced traffic on the existing highway.

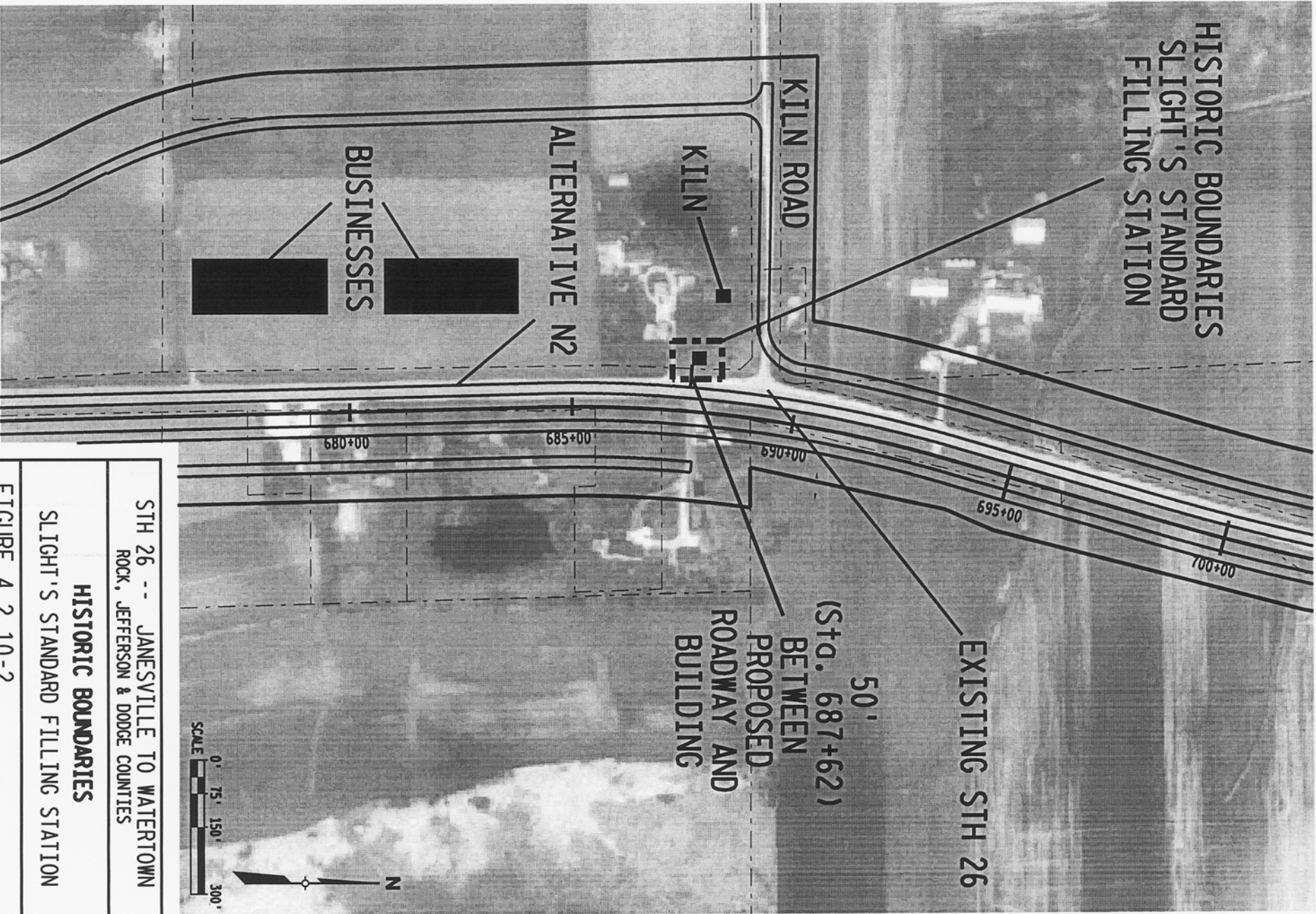
Alternative C2(a) was selected as the Preferred Alternative. This alternative includes a west bypass for the City of Jefferson. The historic boundaries for the ten properties in the City of Jefferson identified in Section III are about 1.25 miles from the proposed right-of-way for the Preferred Alternative, and are beyond an Area of Potential Effect for the project. St. Coletta School Historic District and Alverno Cottages are located adjacent to each other on USH 18 and CTH Y east of the City of Jefferson. The district boundaries for these properties are about 2.3 miles from the proposed right-of-way for the Preferred Alternative, and are beyond an Area of Potential Effect for the project. There are no buildings at these historic properties within view of the proposed highway. This alternative will have no effect on any historic properties. Coordination with the SHPO is complete, and all Section 106 requirements have been fulfilled.

4.2.10.3 North Segment

In the City of Watertown, **nine** historic properties are listed or potentially eligible for listing on the NRHP. Among these are the North Washington Historic District with 35 buildings along STH 26, the South Washington Historic District with 14 buildings along STH 26, and the St. Bernard Catholic Church complex with three buildings along STH 26. The remaining properties are individual historic structures. A tenth historic property (Slight's Standard Filling Station) is located in the rural area north of Watertown at the intersection of STH 26 and Kiln Road. This property has been determined eligible for the NRHP. The historic boundaries for Slight's Standard Filling Station are shown on Figure [4.2.10-2](#).

Under the No Build alternative, land would not be acquired from the above-identified historic properties. Negative impacts that will increasingly become significant are associated with traffic, i.e., access, noise, vibration, visual effects, safety and difficulty crossing the roadway.

Existing ADT volume along STH 26 is 19,600 vehicles in the City of Watertown south of STH 19 and in the vicinity of the South Washington Historic District and the St. Bernard Catholic Church complex. North of STH 19, and in the area of the North Washington Historic District, the existing ADT volume is 13,900 vehicles. With the No Build alternative, these volumes are forecasted to increase to 37,000 and 26,000 vehicles respectively by 2028. About 11 percent of the total traffic volumes south of STH 19, and 18 percent north of STH 19, are trucks.



STH 26 -- JANESVILLE TO WATERTOWN
ROCK, JEFFERSON & DODGE COUNTIES

HISTORIC BOUNDARIES

SLIGHT'S STANDARD FILLING STATION

FIGURE 4.2.10-2

In the City of Watertown the existing noise level is 73 decibels along the South Washington Historic District, and 71 decibels along the North Washington Historic District, both exceeding the 67 residential decibel NAC level. Under the No Build alternative, by the year 2028 the noise level is predicted to increase to 76 and 73 decibels respectively. At Slight's Standard Filling Station north of Watertown, the existing noise level is 69 decibels with a projected increase to 72 decibels.

Existing STH 26 goes through both the South and North Washington Historic Districts and is adjacent to the other historic properties identified above. This route not only functions as the main route for north-south regional and statewide destination traffic, but also provides the local and regional access for east-west traffic on STH 19. This route also provides for local internal circulation traffic within the city to access commercial sites including the downtown area, regional school facilities, employment sites, and residential areas. Traffic volumes, including trucks, would increase under the No Build alternative, resulting in more difficult pedestrian and vehicular crossings of STH 26 and increased safety concerns. In addition, the increase in truck traffic would result in adverse visual impacts to all the identified historic properties within the City of Watertown.

Alternatives N1 and N2 will not cause any negative change in the quality of the historical or architectural characteristics of the identified historic properties described above. Land would not be acquired from any of the historic sites. A preliminary assessment of effect concludes that there is no effect on the historic resources in the City of Watertown under Alternatives N1 or N2. Additionally, it appears there would be no effect under Alternative N1, and no adverse effect under Alternative N2, on Slight's Standard Filling Station north of Watertown

Alternative N1 generally follows the existing highway with a west side bypass of the City of Watertown that extends north of Kiln Road before it rejoins the existing highway. This alternative is located about 2 miles (3.2 km) west of the historic properties in the city, and about 900 feet (275 m) west of Slight's Standard Filling Station. Alternative N1 would remove truck traffic from the existing route through the city, and would lessen noise levels at the historic properties located in the city. This alternative will enhance safety features on the existing roadway such as pedestrian crossings and vehicular access at side roads due to reduced traffic on the existing highway.

Alternative N2 generally follows the existing highway with an east side bypass of the City of Watertown. This alternative is located about 1.6 miles (2.6 km) east of the historic resources in the city. Alternative N2 would remove truck traffic from the existing route through the city, and would lessen noise levels at those historic properties within the city. This alternative will enhance safety features on the existing roadway such as pedestrian crossings and vehicular access at side roads due to reduced traffic on the existing highway.

Slight's Standard Filling Station north of Watertown is located about 53 feet (16 m) from the pavement edge of existing STH 26. The filling station is located on a farm parcel that includes a farmhouse and agricultural outbuildings. Two industrial warehouses were erected in 1998 just south of the farmhouse. In earlier times, the Slight family operated a "cabin camp" with five tourist cabins, a bathhouse, and space for pitching tents adjacent to the filling station. The bathhouse has been converted to a garage and the cabins have been removed.

Under Alternative N2, the existing highway would be expanded from 2-lanes to 4-lanes at the filling station site. The expansion would occur on the opposite side of the highway at this historic property, and land would not be acquired from the site. Currently access to Slight's Standard Filling Station is from STH 26. Alternative N2 would not isolate the property, but could shift the access location slightly in order

to control access along STH 26. Currently, the filling station does not function as an operating gasoline station and is in the owner's yard as a decorative feature. Alternative N2 would not impair the capability of this property to perform its function with respect to either current land use or as a historic resource. Existing noise level at this site is 69 decibels. By 2028, this level is predicted to increase to 70 decibels. The proposed highway under Alternative N2 will remain at approximately the same grade elevation as the existing highway at this property, and visual impacts would be related to the roadway expansion from 2-lanes to 4-lanes.

Alternative N1 was selected as the Preferred Alternative. Minor changes and alignment shifts were made to further minimize overall environmental impacts. This alternative includes a west bypass of the City of Watertown. The historic boundaries for the nine properties in the City of Watertown identified in Section III are about 1.9 miles from the proposed right-of-way for the Preferred Alternative, and are beyond an Area of Potential Effect for the project. The boundaries for the tenth historic property, Slight's Standard Filling Station, are about 1,000 feet from the right-of-way for the Preferred Alternative, and are beyond an Area of Potential Effect for the project. There are no historic buildings within view of the Preferred Alternative. This alternative will have no effect on any historic properties. Coordination with the SHPO is complete, and all Section 106 requirements have been fulfilled.

4.2.11 Hazardous Materials

Table 4.2.11-1 summarizes the results of the hazardous materials site assessments for the Build Alternatives. Sites potentially affected by the alternatives were rated from "A" to "D" with a rating of "A" being of highest potential concern and "D" being of lowest potential concern. Sites were generally rated as follows:

- "A" - Known contaminated sites
- "B" - Known contaminated sites that have been closed out by DNR, known underground storage tank (UST) sites (current or former), known agricultural chemical mixing/loading/storage facilities, known solid waste landfills
- "C" - Active farms, existing aboveground storage tanks (AST), existing drums, known RCRA generators, known salvage operations
- "D" - Former farms, possible hazardous materials handling, possible former gasoline sales, possible former fuel storage, known sites with fill materials, railroad crossings

**TABLE 4.2.11-1
SUMMARY OF HAZARDOUS MATERIAL SITE RATINGS**

Detailed Study Alternatives	Level of Concern				Total Number of Sites
	High		Low		
	A	B	C	D	
Milton Bypass S2	0	2	3	6	11
Milton Bypass S3	0	1	7	7	15
Existing Route, North of Milton	1	7	13	18	39
Existing Route, South of Jefferson	0	1	0	4	5
Jefferson Bypass C1	0	4	8	16	28
Jefferson Bypass C2*	0	3	4	13	20
Jefferson Bypass C3	0	3	6	12	21
Jefferson Bypass C4	0	5	7	8	20
Existing Route, North of Jefferson	0	1	3	8	12
Existing Route, South of Watertown	0	7	8	9	24
Watertown Bypass N1	0	8	23	9	40
Watertown Bypass N2	0	9	12	10	31
Existing Route, North of Watertown	2	4	27	11	44

* Modifications C2(a) and C2(b) would impact the same sites as Alternative C2 along existing STH 26. The bypass portions of these alignments have not been investigated but are anticipated to contain approximately the same quantity of sites as Alternative C2.

In all three segments, the number of potential hazardous sites varies little between the alternatives. Slight differences in the total number of sites are primarily sites rated as “C” or “D,” representing sites of lower concern. Only three known contaminated sites were discovered. All of these sites are along the existing route, one north of Milton and two north of Watertown. The site north of Milton is owned by the DNR and is part of the State Environmental Restoration Program. Treatment is currently being done at the site completion of the cleanup is expected by 2001. The two known contaminated sites north of Watertown are sites that contain active leaking underground storage tanks.

In March 2002, following selection of a Preferred Alternative in each project segment, it was determined that a total of 134 sites of potential concern are located along the preferred corridor. Of the 134 sites, 68 sites were selected for additional Phase 1 work based on their proximity to the recommended corridor.

The additional Phase 1 work performed included site walkovers, interviews with property owners, and a review of available DNR case files. In addition, petroleum storage tank detail sheets were obtained from the Department of Commerce Tank Database for registered USTs and aboveground storage tanks that were previously identified through environmental record search.

Having completed a Phase 1 investigation for the improvement under consideration, the District has determined that further investigation of three sites in the South Segment, three sites in the Central Segment, and six sites in the North Segment (a total of 12 sites) is merited. Those investigations are in the

process of being scheduled. The District will work with all concerned to insure that the disposition of any petroleum contamination is resolved to the satisfaction of the Wisconsin DNR, WisDOT OEA, and FHWA before acquisition of any questionable site, and before advertising the project for letting.

Non-petroleum sites will be handled on a case-by-case basis with detailed documentation and coordination with FHWA as needed.

4.2.12 Air Quality

4.2.12.1 No Build Alternative

Under the No-Build Alternative, traffic volumes along STH 26 are projected to increase. The increased traffic volume will cause unstable traffic flow, lower levels of service, increased traffic congestion, and longer waiting times at intersections. The result of these impacts is an increase in vehicle emissions.

4.2.12.2 Build Alternatives

According to the Intermodal Surface Transportation Efficiency Act (1991), a federal agency may not approve or fund a transportation project unless it conforms to the State Implementation Plan (SIP) for air quality. To conform to the SIP, a project cannot (1) cause or contribute to a new violation of any National Ambient Air Quality Standard (NAAQS), (2) increase the frequency or severity of any existing violation of any NAAQS, and (3) delay timely attainment of any NAAQS or any required interim emissions reductions or other milestones. At state and regional levels, ozone non-attainment areas are of concern in conforming to the SIP. Rock, Jefferson, and Dodge Counties are not designated as ozone non-attainment areas and, therefore, the proposed project conforms to the SIP. The conformity procedures of 23 CFR 770 do not apply.

Carbon monoxide (CO) is the only motor vehicle pollutant currently analyzed. The NAAQS criteria for an adverse CO impact are an exceedance of the one-hour standard of 35 parts per million (ppm) or the eight-hour average of 9 ppm. For highway projects, the worst-case scenario for producing CO is analyzed in compliance with Section NR 411 of the Wisconsin Administrative Code.

A screening analysis based on a line source dispersion model (computer programs Mobile 5a and CAL3QHC) was used to predict CO levels at the proposed intersection of Linmar Lane and STH 26, which represents the worst case scenario for the entire 48 miles (29 km) of this project. This analysis to predict the maximum CO concentrations was conducted in 1998 for the scheduled 2001 improvement project at Johnson Creek (Project I.D. 1067-01-02). Table 4.2.12.2 summarizes the results of the analysis. The analysis predicted CO concentrations to be less than 75 percent of the NAAQS (for 2001 or 2011) (1-hr peak or 8-hr average). According to the WDNR's letter dated May 4, 1998, (see Appendix A) no air pollution control permit is required for this project.

**TABLE 4.2.12.2
MAXIMUM PROJECTED CARBON MONOXIDE (CO) CONCENTRATIONS**

Receptor Location or Site Description (See Figure E3)	Carbon Monoxide (ppm) ⁽¹⁾ STH 26/Linmar Lane Intersection			
	1 - Hour Peak ⁽²⁾		8 - Hour Average ⁽³⁾	
	Construction Year	Construction Year Plus Ten Years	Construction Year	Construction Year Plus Ten Years
	2001	2011	2001	2011
Receptor 1 (A1)	8.4	8.3	4.3	4.3
Receptor 2 (A2)	10.2	10.2	5.3	5.2
Receptor 3 (A3)	8.8	8.2	4.8	4.6
Receptor 4 (A4)	6.9	7.1	3.8	3.8
Receptor 5 (A5)	9.0	9.2	4.5	4.6

⁽¹⁾ppm = parts per million -- parts of CO per million parts of gas.

⁽²⁾Includes 1-hour ambient background CO concentration of 4.7 ppm.

⁽³⁾Includes 8-hour ambient background CO concentration of 2.9 ppm.

4.2.13 Noise

4.2.13.1 No-Build Alternative

Under the No Build alternative, noise levels will continue and likely increase as traffic volumes increase. In the urban areas, higher speed noise will likely be replaced by stop and start and idling noise as congestion builds. It is estimated that 516 residences, 129 businesses, and 1 school will experience noise impacts in the design year 2028.

4.2.13.2 Build Alternatives

The criteria defining traffic noise impacts have been established by WisDOT through Wisconsin Administration Code – Chapter Trans 405, Siting Noise Barriers (Trans 405). Traffic noise impacts occur when the predicted equivalent sound levels approach* or exceed the noise level criteria (NLC) established for a type of land use, or, when predicted sound levels substantially exceed existing levels. WisDOT has determined “approach” to be defined as 1 dBA less than the NLC. WisDOT has determined “substantial increase” to be 15 dBA or more than existing levels. TRANS 405 was approved as WisDOT’s written policy by FHWA on February 29, 1996. The NLC established as part of Trans 405 are shown in Table 4.2.13.2. Noise impacts for the various alternatives are compared based on the number of receptors that approach or exceed the activity category and/or experience a substantial increase. Noise receptors are defined by the Department as “lower-level, front-abutting units” that receive highway noise.

- TRANS 405.04(2)(b) uses the word “equal” instead of “approach”, however additional FHWA guidance following promulgation of TRANS 405 required that the word “approach” be used when determining noise impacts.

**TABLE 4.2.13.2-1
NOISE LEVEL CRITERIA FOR CONSIDERING BARRIERS**

Activity Noise Abatement Criteria (dBA)		Description of Land Use Category
Land Use Category	$L_{eq}(h)^1$ (dBA)	
A	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 (Exterior)	Picnic area, recreation areas, playgrounds, active sports areas, and parks not included in Category A and residences, motels, hotels, public meeting rooms, schools, churches, libraries, and hospitals.
C	72 (Exterior)	Developed lands, properties, or activities not included in Categories A and B above.
D	---	Undeveloped lands.
E ²	52 (Exterior)	Residences, motels, public meeting rooms, churches, libraries, hospitals, and auditoriums.

¹ “ L_{eq} ” means the equivalent steady-state sound level, which in a stated period of time contains the same acoustic energy as the time-varying sound level during the same period. For purposes of measuring or predicting noise levels, a receptor is assumed to be at ear height, located five feet above the ground surface.

“ $L_{eq}(h)$ ” - The hourly value of L_{eq}

² Use of interior noise levels shall be limited to situations where exterior noise levels are not applicable.

History: Cr. Register, August, 1989, No. 404, eff. 9-1-89.

Measurements of existing sound levels were done using a Model Q-300 Noise Dosimeter. Predicting future traffic noise at representative worst-case receivers along the project corridors was performed using FHWA’s Stamina 2.0 computer program and the FHWA Traffic Noise Model Look-Up Tables. The sound level reading and modeling locations for the Build Alternatives are shown on Exhibits 5, 6, and 7. The sound level reading and modeling locations for the No-Build Alternatives and the Johnson Creek Noise Analysis are shown on Figures E1 through E4 in Appendix E. The Traffic Noise Impact Summary is shown on Table 4.2.13.2-2, with a more detailed listing of impacts for the Detailed Study Alternatives on Tables E1 through E16 in Appendix E. Measured Noise Readings for the South, Central, and North Segments are listed on Tables E17 through E19, respectively, in Appendix E. A detailed listing of impacts for the Preferred Alternative is shown on Tables E20 through E27 in Appendix E.

TABLE 4.2.13.2-2 TRAFFIC NOISE IMPACT SUMMARY (Design Year 2028)		
ALTERNATIVE	RECEIVER LOCATION	NUMBER OF RECEIVERS IMPACTED
South Segment		
No-Build	City of Milton Rural	67 Residences, 26 Businesses, 1 School 7 Residences
Alternative S2	Along Alternative S2 STH 26	9 Residences, 1 Business 41 Residences, 7 Businesses
Alternative S3	Along Alternative S3 STH 26	16 Residences, 2 Businesses 41 Residences, 7 Businesses
Preferred Alternative S3	Along Alternative S3 STH 26	9 Residences, 2 Businesses 41 Residences, 7 Businesses
Central Segment		
No-Build	Fort Atkinson Bypass N. Bus. 26 Interchange to Collins Rd. City of Jefferson City Limits to CTH Y	3 Residences 3 Residences 157 Residences, 53 Businesses 29 Residences
Alternative C1	Along Alternative C1 STH 26	21 Residences, 2 Businesses 146 Residences, 10 businesses
Alternative C2, C2(a), & C2(b)	Along Alternative C2, C2(a), & C2(b) STH 26	19 Residences, 3 Businesses 146 Residences, 10 businesses
Preferred Alternative C2(a)	Along Alternative C2(a) STH 26	17 Residences, 2 Businesses 146 Residences, 10 businesses
Alternative C3	Along Alternative C3 STH 26	21 Residences, 1 Business 146 Residences, 10 businesses
Alternative C4	Along Alternative C4 STH 26	4 Residences, 1 Business 146 Residences, 10 businesses
Johnson Creek	City of Johnson Creek	25 Residences, 1 Recreation Area, 1 Business
North Segment		
No-Build	Baneck Lane to Airpark Rd. City of Watertown City Limits to STH 60 East	45 Residences 186 Residences, 50 Businesses 19 Residences
Alternative N1	Along Alternative N1 STH 26 1500' North of Endeavour Dr. to CTH Q	65 Residences, 1 Business 186 Residences, 23 Businesses 4 Residences
Preferred Alternative N1	Along Alternative N1 STH 26	53 Residences, 0 Business 186 Residences, 23 Businesses
Alternative N2	Along Alternative N2 STH 26	26 Residences, 8 Businesses 162 Residences, 17 Businesses

Table includes relocations.

Noise Impacts

South Segment

For the No-Build Alternative, five receptors representing 83 receivers were analyzed in the rural areas and fifteen receptors representing 123 receivers were analyzed in the city of Milton. Along STH 26, 67 residences, 26 businesses, and 1 school will be impacted in the urban areas, and 7 residences would be impacted in the rural areas under the No-Build Alternative.

Along Alternative S2, noise impacts will occur at 9 residences and 1 business. Alternative S3 will impact 16 residences and 2 businesses. Compared to the No-Build Alternative, Alternatives S2 and S3 will reduce the noise impacts along existing STH 26 from 67 residences, 26 businesses, and 1 school to 41 residences and 7 businesses.

Alternative S3 was selected as the Preferred Alternative. Minor alignment shifts were made to further minimize overall environmental impacts. The Preferred Alternative will have noise impacts to 9 residences and 2 businesses. Also, the Preferred Alternative will reduce noise impacts along existing STH 26 from 67 residences, 26 businesses, and 1 school to 41 residences and 7 businesses.

Central Segment

For the No-Build Alternative, eleven receptors representing 147 receivers were analyzed in the rural areas and 12 receptors representing 242 receivers were analyzed in the city of Jefferson. Along the existing Fort Atkinson Bypass, 3 residences will be impacted. From the North Business Interchange to Collins Road in Jefferson, 3 residences will be impacted. In the city of Jefferson, approximately 157 residences and 53 businesses will be impacted by noise. Outside the Jefferson city limits to CTH Y, 29 residences will be impacted.

Along Alternative C1, 21 residences and 2 businesses will be impacted. Alternatives C2, C2(a), and C2(b) will impact 19 residences and 3 businesses. Alternative C3 will impact 21 residences and 1 business, and Alternative C4 will result in 4 residences and 1 business being impacted. In the city of Jefferson, along existing STH 26, Alternatives C1, C2, C3, or C4 will result in 146 residences being impacted and 10 businesses impacted.

In Johnson Creek, all of the build alternatives will result in 25 residences, 1 recreation area, and 1 business being impacted.

Alternative C2(a) was selected as the Preferred Alternative. Minor alignment shifts were made to further minimize overall environmental impacts. The Preferred Alternative will have noise impacts to 17 residences and 2 businesses. Also, the Preferred Alternative will reduce noise impacts in the City of Jefferson along existing STH 26 from 157 residences and 53 businesses, to 146 residences and 10 businesses.

North Segment

For the No-Build Alternative, twelve receptors representing 103 receivers were analyzed in the rural areas and 21 receptors representing 247 receivers were analyzed in the city of Watertown. From Baneck Lane to Airpark Road, the No-build Alternative will result in 45 residences being impacted. Along STH 26 in the city of Watertown, 186 residences and 50 businesses will be impacted. From the city limits of Watertown to STH 60 East, 19 residences will be impacted.

Alternative N1 will result in 65 residences and 1 business being impacted by highway noise. Along existing STH 26, with Alternative N1 present, 186 residences and 23 businesses will be impacted. With Alternative N1 present, the section of STH 26 1500 feet (458 m) north of Endeavour Drive to CTH Q will result in four residences impacted by traffic noise.

Alternative N2 will result in 26 residences and 8 businesses being impacted along the alignment. STH 26 will have 162 residences and 17 businesses impacted with the existence of the N2 Alternative. This lowers the noise impacts in the city of Watertown by 33 businesses.

Alternative N1 was selected as the Preferred Alternative. Minor alignment shifts were made to further minimize overall environmental impacts. The Preferred Alternative will have noise impacts to 53 residences and 0 businesses. Also, the Preferred Alternative will reduce noise impacts along existing STH 26 in the City of Watertown from 186 residences and 50 businesses, to 186 residences and 23 businesses.

Noise Abatement

When traffic noise impacts occur, measures to reduce or eliminate impacts should be considered by the project sponsor where such impacts are determined “reasonable and feasible.” Trans 405 mandates that construction of noise barriers must reduce noise levels by 8dBA at a cost of \$30,000 per dwelling unit or less to be considered reasonable. Barriers are feasible where terrain, access, safety, or other physical constraints do not preclude them, and where they are able to achieve a substantial noise reduction. In addition, barriers of sufficient height to be effective will block views of the highway and areas beyond and therefore are often considered by affected residents to be visually unacceptable.

Noise abatement measures considered for this project included:

- Traffic management measures (e.g., prohibition of trucks).
- Alteration of horizontal or vertical alignment.
- Construction of noise barriers.

Traffic management measures applied to the proposed facility are not deemed reasonable and feasible since this project is intended to improve mobility within the area. Therefore, traffic management abatement measures are not proposed.

The horizontal alignments for the proposed alternatives have been designed to minimize overall impacts, including environmental impacts and impacts to existing development along the corridor. Most of the properties having noise impacts are located along existing STH 26 in the urban areas. Alignment modifications along existing STH 26 are not feasible due to adjacent development. Therefore, alignment modifications in the urban areas for noise abatement purposes are not proposed.

Design features that were considered to minimize noise were depressed roadway, earthen berms, or increased distances from the receptor.

Most receptors in the rural areas are single, isolated homes or businesses. On all sites along the project corridor where noise impacts occur, the cost for constructing effective noise barriers is not reasonable and such construction is therefore not recommended.

One location along STH 26 in the village of Johnson Creek was identified for further investigation of noise barriers because one receptor representing twelve mobile homes was being impacted, and because the location of the homes made it physically possible to construct an effective barrier. A preliminary design for an effective noise barrier that reduced sound levels by 8 dBA required a height of 23 ft. (7 m) and a length of 1050 ft. (320 m). At an estimated construction cost of \$18/SF (\$194/SM), the barrier would cost

\$434,000 or \$36,200 per residence. This cost is not considered reasonable for implementing noise abatement. Therefore, noise barriers will not be provided at this site.

In summary, there are no noise abatement measures that are considered feasible and prudent for this project, and none will be provided.

4.2.14 Visual and Aesthetic Resources

This subsection discusses the anticipated primary and potential secondary impacts to visual resources associated with each alternative under consideration for STH 26. It addresses the character of the new or improved roadway, views of and from the roadway, and the degree of visual impact that would be expected from each alternative.

In general, the visual or aesthetic character of STH 26 is typical of rural highways throughout southern Wisconsin. The visual character of the sections of roadway between communities is dominated by farmsteads, cropland, fallow fields, and low lands covered by shrubs and native hardwoods. Most individuals viewing the rural countryside find the rolling topography, farmlands, and woodlands pleasing. Some of the older farmsteads with traditional barns and other farm buildings are picturesque and represent a rural landscape type that is rapidly being diminished.

Increasing numbers of rural residences are appearing in the form of both rural subdivisions and scattered rural lots. Many of the newer residences are located on hilltops and ridgelines. Increasing numbers of billboards and other sign advertising is also altering the rural landscape. The changing rural character is an important issue for many residents of the area and has been addressed in most of the locally adopted master plans and other planning documents. In general, most local officials and area residents would prefer to retain more of the traditional farmland and woodlot rural character.

The visual character and aesthetic quality of the roadway generally declines as it approaches incorporated communities. Along the sections STH 26 which are routed through Milton, Jefferson, Johnson Creek, and Watertown, the highway is bordered by a typical array of highway-oriented business, fast-food restaurants, other types of retail and service business. There is a proliferation of both on-site and off-site advertising signage. The roadside character on the outskirts of most of the STH 26 communities is similar to the character of most arterial strips throughout the country. The business mix is a combination of franchise businesses, often occupying “trademark” buildings and locally owned businesses.

4.2.14.1 No Build Alternative

The No Build Alternative would not directly alter the landscape or visual resources along the corridor. Views of the road and from the road would remain unchanged. Without more effective local planning and zoning there would be a continuation and expansion of the “arterial strip development” that characterizes the urban sections of the highway, particularly within the outskirts. Without strong local planning and zoning continued rural development and highway signage is likely to continue to degrade many of the rural vistas.

Indirectly there could be an impact due to the continued congestion and truck traffic, which tends to devalue properties along the roadside and contributes to a general decline of maintenance and reinvestment in properties. Downtown revitalization and beautification efforts tend to be impeded where heavy truck and other through-traffic discourages pedestrian circulation and where shoppers are impacted by congestion and access constraints.

In the rural areas, continued congestion on existing roadways makes it more difficult for drivers to enjoy surrounding rural views.

4.2.14.2 South Segment

Alternatives S2 and S3 both create new roadway lanes along existing portions of STH 26 and include approximately five miles of new roadway bypassing the City of Milton.

The greatest changes of aesthetic and visual character would occur in the bypass sections around the City of Milton. Both alternatives would travel through an area on the southeast side of the City of Milton that is proposed for business and industrial park development. The visual character of roadway could be impacted by vistas of light industrial buildings. This impact could be lessened both by local site planning and zoning requirements and by design features of the roadway, which could incorporate berms and vegetation to lessen visual impacts.

North of the eastern Milton business district, Alternative S2 crosses a future residential neighborhood. Again, local site planning and zoning can significantly lessen visual impacts.

Alternative S3 would continue north along the east side of the existing STH 26 corridor. The visual character of this section of roadway would likely be quite pleasing, since the road passes near the two golf courses and the Storr's Lake Wildlife Area. The roadway may be visible and/or audible from the two golf courses and portions of the Storr's Lake Wildlife Area, and which may be considered a visual impact.

Between Milton and Fort Atkinson, the highway would continue along the existing corridor. The construction of a vegetated median strip offers the opportunity to introduce native and/or decorative plant materials that would improve the aesthetics of the corridor. Reductions of the number of driveway and street accesses may help relieve some of the "visual clutter" often associated with roadside businesses.

The control of billboards and rural development is primarily a local planning issue. The actions of Jefferson and Rock Counties and the local towns will influence the visual quality of the roadway, whether or not the highway improvements are constructed.

Both Alternatives S2 and S3 connect to the existing bypass around the west side of Fort Atkinson. There would be no significant changes in the visual roadside aesthetic quality other than the construction of the two additional traffic lanes and the median strip. Planting within the median strip could enhance the visual character of this section.

4.2.14.3 Central Segment

All of the Build Alternatives for the Central Segment create new roadway lanes along existing rural portions of STH 26 and approximately eight miles of new bypass highway around the City of Jefferson.

The visual impacts of Alternative C1, C2, C2(a), and C2(b) are similar. Both alternatives bypass on the west side of Jefferson crossing both the Rock and Crawfish Rivers. Both alternatives cross portions of the Jefferson County Farm Property. The vistas and visual impression for drivers on either C1, C2, C2(a), and C2(b) would be significantly enhanced over the current views from the existing corridor through the City. Much of the roadway would cross either rural farm property, woodlands or lowlands. The crossing

over the two rivers could be quite attractive. This area could be enhanced as a demonstration lowland mitigation project.

From the perspective of the residents of the area, the roadway would alter the rural landscape. The bridges and highway approaches over the two rivers would greatly impact the character of the rivers. Residents in the rural subdivisions along the Rock River north of the City of Jefferson are likely to experience some diminishment of visual character due to the bridge and highway structures.

Alternatives C3 and C4 are east side bypasses, which would result in similar impacts on the east side of Jefferson. The bridge crossing of the Rock River south of Jefferson would impact views and vistas from the river and riverside residences. Alternative C3 crosses the St. Coletta's School property and would have a visual impact on the campus. Alternative C4 would require an interchange midway between the City of Jefferson and the unincorporated hamlet of Helensville. These structures and the accompanying traffic would alter the character of this predominantly rural area.

Alternative C4 creates a new highway corridor between Jefferson and Johnson Creek. The vistas from the highway would be quite attractive since the roadway would border a large lowland area west of CTH Y. The route would bypass the rural development that is gradually infilling the area along the existing STH 26 corridor between Jefferson and Johnson Creek. Alternative C4 would require an additional grade separation structure for the Glacial Drumlin State Recreation Trail, which could visually impact trail users.

In Johnson Creek all of the Build Alternatives and the No Build Alternative would utilize the planned four-lane improvement, which is currently being designed and would be constructed over the next several years.

4.2.14.4 North Segment

In the North Segment, both Alternatives N1 and N2 utilize existing highway corridor between Johnson Creek and the proposed interchange near Turf Drive. Both alternatives would provide an additional two lanes of moving traffic and a grassed median strip, which could provide a significant visual enhancement along the rural section of highway. Both bypasses would reroute motorists around the "arterial strip development" on Church Street in the City of Watertown, particularly on the south side.

Alternative N1 crosses the Rock River west of the current STH 26 alignment. The bridge would have a visual impact on nearby riverfront residents. The vista from the roadway is likely to be attractive and would be an enhancement over the current route through the City. Alternative N1 would go along the western edge of Watertown's long-range urban service area west of the City. There would be new development to the east of the roadway. The area to the west would remain predominantly rural. Local site planning and zoning would have a significant impact on the visual impacts in this area.

With Alternative N2, the bridge structure over the Rock River southeast of Watertown would visually impact residences along River Road. North of the interchange with STH 16, Alternative N2 would add minimal visual impact, since it utilizes the existing STH 16 four-lane corridor.

North of Watertown, both Alternatives N1 and N2 rejoin the existing STH 26 corridor. The construction of two additional traffic lanes and grassed median would not substantially alter the visual character of the rural area. The introduction of native and/or decorative materials in the median could improve the visual character. Local site planning and zoning in the Town of Emmet and Dodge County will have a

significant influence on the visual character of the development and signage along the highway. Strong local planning is needed regardless of whether or not the highway improvements are constructed.

Alternative N2 would require two additional lanes along the existing alignment of STH 16 and a new frontage road along the east side of the alignment to allow for access to medical and business facilities. This would affect visual resources along this portion of the route.

4.2.15 Beneficial Reuse

In November 1985, the Wisconsin Legislature passed Wisconsin Act 46, which encouraged the beneficial reuse of high-volume industrial waste (foundry sands and utility coal ash). In 1992, the legislature enacted Wisconsin Act requiring a “Foundry Sand Study” to further address the reuse issue. The purpose of this study was to develop environmentally acceptable ways of beneficially reusing high-volume waste. Because of this study, WisDOT roadway projects have been identified as excellent opportunities to beneficially reuse specific materials.

Wastes that have the greatest potential for reuse in roadway projects include foundry sand and cupole slag, as well as utility coal ash. Certain mine waste (roaster and flotation) may also be suitable for certain roadway projects. The waste streams may have slightly elevated concentrations of metals, but if used according to WDNR guidelines, pose little risk of adversely impacting the environment.

4.2.16 Energy

Energy consumption related to highway projects involves construction and operational energy. Construction energy is that required to build or maintain the highway facility. Operational energy is the direct consumption of fuel by vehicles using the roadway. Fuel consumption is influenced by vehicle types, roadway grades and other geometric characteristics, traffic speed, and delays caused by congestion and intersection stop conditions.

4.2.16.1 No-Build Alternative

The No-Build Alternative would require minimal construction energy. Periodic roadway maintenance such as resurfacing and patching would occur over time until the condition of the roadways warrants complete reconstruction. This alternative would have the greatest operational energy requirements, particularly in Milton, Jefferson, Johnson Creek, and Watertown, where projected traffic volume increases and reduced level of service suggest that increased congestion and vehicle delays and inefficient operation at intersections would be important factors.

4.2.16.2 Build Alternatives

Construction energy would be greatest for the build alternatives, which would have similar construction energy requirements. These costs would be recovered over time due to long-term savings in operational energy costs.

4.2.17 Construction Impacts

The construction of all build alternatives will involve typical roadway construction activities, including maintenance of traffic, clearing, grading, construction of temporary haul roads, excavation of unusable

soils and associated disposal, construction of drainage structures, base course and paving operations, utility relocations, and landscaping.

An important impact associated with road construction is the short-term interference with traffic patterns, including pedestrians and bicyclists. The Milton, Jefferson, and Watertown bypasses would be constructed on new location, so traffic could continue to use existing STH 26 through these cities until the bypasses are completed. For much of the remainder of the project, two new lanes will be constructed alongside the existing two lanes. Traffic generally could be maintained on the existing roadway until the two new lanes are completed. At some locations, temporary connections may be necessary to maintain traffic on STH 26 when switching the two new lanes from one side of the existing roadway to the other side, or where the existing lanes are to be removed and four new lanes are to be constructed.

Noise generated by construction equipment will vary greatly depending on the equipment type, mode and duration of operation, and specific type of work in progress. See Table 4.2.17-1 for typical construction equipment sound levels for various equipment types. Typical noise levels at 50 feet (15 m) from the construction zone will be in the range of 67 to 105 dBA. See Table 4.2.17-2 for typical construction equipment sound levels for various equipment types.

**TABLE 4.2.17-1
CONSTRUCTION EQUIPMENT SOUND LEVELS**

	Sound Level (dBA) at 50 Feet					
	60	70	80	90	100	110
EQUIPMENT POWERED BY INTERNAL COMBUSTION ENGINES						
Earth Moving						
Compactors (Rollers)		—				
Front Loaders		—	—			
Backhoes		—	—	—		
Tractors		—	—	—		
Scrapers, Graders			—	—		
Pavers				—		
Trucks			—	—		
Materials Handling						
Concrete Mixers			—	—		
Concrete Pumps				—		
Cranes (Movable)			—	—		
Cranes (Derrick)				—		
Stationary						
Pumps		—				
Generators		—	—			
Compressors			—	—		
Impact Equipment						
Pneumatic Wrenches			—	—		
Jack Hammers & Rock Drills			—	—	—	
Impact Pile Drivers (Peaks)				—	—	
Other						
Vibrator		—	—			
Saws			—	—		

SOURCE: Figure 2-36, Report to the President and Congress on Noise, Prepared by the U.S. EPA, February 1972

TABLE 4.2.17-2
CONSTRUCTION NOISE/DISTANCE RELATIONSHIP

Distance from Construction Site, Meters (feet)	Range of Typical Noise Levels (dBA)
8(25)	82-102
15(50)	75-95
30(100)	69-89
61(200)	63-83
91(300)	59-79
122(400)	57-77
152(500)	55-75
305(1,000)	49-69

Source: EPA and WisDOT.

It is important to note that construction levels refer to instantaneous maximum noise as opposed to the hourly average sound levels used to describe traffic noise. The loudest construction sound levels would occur during operations such as pile driving or breaking concrete. Adverse impacts resulting from construction noise are expected to be localized, temporary and transitory.

To reduce the potential impact of construction noise, the special provisions for this project will require that motorized equipment shall be operated in compliance with all applicable local, state and federal laws and regulations relating to noise levels permissible within and adjacent to the project construction site. All motorized construction equipment will be required to have mufflers constructed in accordance with the equipment manufacturer's specifications or a system of equivalent noise reducing capacity. It will also be required that mufflers and exhaust systems be maintained in good operating condition, free from leaks and holes.

Short-term construction impacts on transportation, access to facilities and services, regional and local economies, and the natural environment (including surface waters, wetlands) are discussed above under those separate subsections.

4.3 SUMMARY OF INDIRECT AND CUMULATIVE IMPACTS

This section summarizes the potential indirect and cumulative land use, socioeconomic, and environmental impacts of proposed STH 26 improvements that could take place over a period of time. Such impacts can be both beneficial and adverse. These impacts are discussed earlier in Sections 4.1 and 4.2.

This section also discusses tools that are available to local governments to address indirect and cumulative impacts.

The Panel of Experts process described in [Section 4.1](#) was used to identify both the potential indirect and cumulative impacts and to identify the tools available to mitigate or manage such impacts.

The study area used to evaluate indirect and cumulative impacts includes all of the three counties (Rock, Jefferson, and Dodge) that contain portions of the proposed corridor.

4.3.1 Regulatory Basis and Definitions of Indirect and Cumulative Impacts

The Council on Environmental Quality (CEQ) regulations (40 CFR 1500 - 1508) provides a regulatory framework and guidance for analyzing indirect and cumulative impacts. WisDOT's publication, *Indirect and Cumulative Effects Analysis for Project-Induced Land Development: Technical Reference Guidance Document*, provides guidance on complying with CEQ regulations. According to the technical reference document and the language in the WisDOT Facilities Development Manual (Procedure 25-5-17):

“Environmental documents are required to include reasonably foreseeable direct and indirect effects, including changes to land use. Project-induced land development means changes in the land use that are a result, in whole or in part, of decisions made about the transportation system.”

The CEQ regulations (40 CFR 1500 – 1508) implementing the procedural provisions of the National Environmental Policy Act (NEPA) distinguishes indirect and cumulative impacts from direct impacts through the following definitions (“effects and “impacts” are used synonymously in the CEQ regulations):

- a) direct effects - “are caused by the action and occur at the same time and place.”
- b) indirect effects - “are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.” (s. 1508.8)
- c) cumulative effects - “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.” (s. 1508.7)

4.3.2 Potential Land Use and Socioeconomic Indirect and Cumulative Impacts

Impacts and tools to address them are discussed below and summarized in [Table 4.3.2](#).

4.3.2.1 Residential

Indirect impacts on residential land use refers to the potential for impacts on either the amount or rate of residential growth or the location of residential growth due to highway improvements. Cumulative impacts on residential land use refers to the potential for impacts resulting from the combination of the STH 26 improvements with other past, present or reasonably foreseeable future actions. Residential development may be stimulated by a range of factors including lessening of commuter times between potential residential development areas and places of employment; location of interchanges and signaled intersections; or, impacts on local road access and circulation.

General Residential Development Trends

The population of each of the three counties that include portions of proposed STH 26 improvements exceeded the state growth rate of 7 percent from 1990 to 1998 (Wisconsin Department of Administration (WDOA), Demographic Services Center). At the same time, the study area is not subject to either “boom – bust” economic cycles or large changes in the rates of population growth. Population growth rates are unlikely to be measurably impacted by STH 26 improvements.

The general pattern of development along the STH 26 corridor consists of a group of incorporated mid-sized and smaller communities (Milton, Fort Atkinson, Jefferson, Johnson Creek, and Watertown) separated by rural areas of primarily agricultural land or low-density rural residential development. Janesville, which is located at the southern end of the corridor where STH 26 joins Interstate Highway 90, has a population of approximately 60,000. The incorporated communities along the STH 26 corridor in the study area range from approximately 1,600 to 21,000. Each of the incorporated communities has a strong base of local industry. All the local economies are relatively healthy and there are no significant pockets of blight or depressed areas.

The general residential commuting patterns in the study area are complex and utilize a large number of different routes. In general, the predominant commuter patterns are in an east-west direction because of residents of Rock, Jefferson and Dodge Counties commuting to employment centers in the Madison and Milwaukee metropolitan areas. The STH 26 improvements will have limited impact for the majority of east-west commuters because of the large number of east-west roads that commuters can take to travel either to the Madison or Milwaukee metropolitan areas.

Although the predominant commuter patterns are east-west, a significant amount of both commuter and business-related travel occurs between communities on the STH 26 corridor. STH 26 improvements will affect the commuting times and convenience for study area residents who commute within the corridor or utilize the STH 26 corridor for access to either IH 90 or IH 94.

Although STH 26 improvements are not likely to impact the total population within the three-county area, the highway improvements could affect location decisions within the corridor. In general, improvements to STH 26 could influence residential location decisions in the following manner:

- Portions of the study area that will have reduced commute times due to highway improvements could become more attractive residential development locations;
- Communities that have more industry and retail development that can be attributed to better highway transportation access may grow at a faster rate than communities without transportation improvements;
- Areas or districts adversely affected by highway improvements (e.g. noise factors, poor access) could become less attractive for residential development;
- Areas that receive other urban services, such as public sanitary or water supplies, could become more attractive for residential development. This impact can be seen where utilities are extended to serve interchange or highway-related development and the surrounding residential land thus becomes serviceable by utilities.

A very important factor that will influence residential location decisions within the STH 26 study area is the fact that all of the municipalities and each of the three counties has land use plans and other types of land use regulations. These land use plans and regulations encourage growth within planned growth boundaries or urban service areas and discourage growth in rural areas outside delineated growth boundaries.

No-Build Alternative

The No-Build Alternative could potentially have several different long-range impacts on residential development. If the No Build alternative resulted in a slow decline in local economies, a gradual slowing of growth rates could occur in those communities along the corridor that do not have good access to the regional highway system. A general stagnation of the local economy could eventually reduce the rates of residential construction and employment.

Another potential result of the No-Build Alternative in each of the communities that STH 26 traverses (i.e. Milton, Jefferson, and Watertown) would be increased congestion and slower movement of traffic along existing STH 26. Slower moving traffic can reduce the severity of accidents, but slower moving traffic also impedes mobility. Traffic congestion could result in the indirect impact of stimulating relocation and additional residential growth on the outskirts of the communities in neighborhoods where there would be less traffic.

The No-Build Alternative could also have the indirect effect of discouraging development that might otherwise occur at the interchanges of bypass highways around Milton, Jefferson, and Watertown. The lack of such bypass-related development could tend to slow the rate of utility extensions and affect the direction of residential growth.

Build Alternatives

Indirect and Impacts Due to the Location of Bypasses

The locations of bypasses around Milton, Jefferson, and Watertown will likely have an impact on the general direction of growth in each of these communities. Bypasses tend to form “beltways” around communities where infill occurs within the “beltway” and the area outside the “beltway” tends to remain rural. The reason for this is that the bypass corridors form, at least temporarily, barriers to the extension of utilities.

In general, the bypass routes that are closer to the developed portions of the communities will tend to encourage more compact development patterns with development closer to the incorporated communities. Conversely, bypass routes that are farther removed from the existing growth areas may tend to stimulate residential development farther from existing development centers.

Cumulative Impacts of STH 26 Improvements

The main cumulative impacts on residential land use could include increased residential development due to the improved economy that results from STH 26 improvements and industrial park expansion; increased residential development on the north side of Janesville and the south side of Milton where 1999 STH 26 improvements will combine with upcoming improvements to make the area more attractive for residents; and, increased residential growth and development in the Johnson Creek area where 2002 STH 26 improvements will combine with upcoming improvements to make the area attractive for residents.

Indirect Impacts Due to Reduced Commuter Times

The bypass alternatives reduce commuter times between communities within the corridor. The bypass alternatives also reduce commuter times between communities and IH 90 and IH 94. This could have the incremental affect of making certain areas more attractive for development. This potential regional impact is lessened, in part, because other highways in southern Wisconsin are also receiving transportation facility improvements that will maintain or reduce commuter travel times. It is unlikely that the relative improvements in commuter times within the STH 26 corridor will be significant enough to alter the relative attractiveness of the area compared to other communities near the Madison and Milwaukee metropolitan areas.

Role of Local Land Use Plans and Zoning in Managing Potential Indirect Impacts

Each of the communities for which bypasses are being considered has recently adopted a land use plan and local zoning and land use controls. The implementation of these locally adopted land use plans and regulations will have a much more significant impact on long-term residential development patterns than the proposed highway improvements. The Department is proposing to work with local governments along STH 26 from Janesville to STH 60 to prepare a comprehensive corridor plan for access management, future land use, and future road networks on and adjacent to STH 26.

4.3.2.2 Industrial

Indirect impacts on industrial land use refer to the long-range impacts of proposed highway improvements on the quantity, quality, or location of industry. Cumulative impacts on industrial land use refers to the potential for impacts resulting from STH 26 improvements combined with other past, present, and reasonably foreseeable future actions. In this section, the term industry refers to both traditional industries, such as manufacturing, assembly, and distribution, and “new technology” information-based industries, such as office centers, telecommunications companies, and research and development businesses.

All of the build alternatives could have indirect impacts on industrial development by improving access to communities along the corridor. This is especially important for those communities not located on the Interstate Highway system, which includes Milton, Fort Atkinson, Jefferson, and Watertown. These communities are likely to experience incremental industrial impacts because travel times between the communities and to the Interstate Highway system would be reduced.

No-Build Alternative

Truck traffic would continue to travel through the developed portions of Milton, Jefferson and Watertown with the No Build Alternative. Currently, traffic congestion caused by truck routes going through the downtown areas and other developed districts within the corridor is an impediment to many of the industries in the study area. Congestion and long travel times lead to the indirect impact of increasing costs for the delivery of both raw materials and finished goods and products. There would also be greater congestion and longer travel times for employees. The ability to attract employees has become an increasingly important factor regarding where a business should locate. Thus, the greater congestion and longer travel times that would be the result of the No Build Alternative would have the long-term tendency of making those communities not on the Interstate Highway system less attractive for many types of industries that rely on either truck transportation and/or attracting employees from other areas.

Build Alternatives

The bypass alternatives for Milton, Jefferson, and Watertown would all have the long-term impact of removing some of the truck traffic through the central portions of the communities and reducing travel times.

The degree of impacts for each of the bypass alternatives is closely related to the amount by which travel times are reduced and access is improved to both existing and planned industrial sites. In general, proposed bypass locations that have direct access to industrial parks and other industrial districts will be most beneficial to local industries.

In Milton, Alternatives S2 and S3 would both provide similar access to existing and planned industrial parks that would be beneficial in the long-term. In Jefferson, industry is distributed in numerous areas throughout the community. The City is making major investments in a planned industrial park on the northeast side. Access to the planned industrial area would be improved equally by all of the build alternatives that have a north side interchange near the northeast industrial district. In Watertown, industries are also distributed throughout the City. All of the planned industrial park expansion areas are located on the west and southwest sides of the City. Alternative N1 would have the most substantial long-range benefit to local industries since it is located on the west side of the City.

All of these alternatives would lead to the effect of keeping costs lower for the delivery of finished goods and products. This would help to improve the profit margin of existing industries and attract new industrial facilities. There would be new jobs and expansion of the community tax base, helping attract new employees to the area.

Cumulative impacts on industrial land use could include the expansion of industrial parks resulting from the combination of STH 26 project improvements with recently completed STH 26 widening on a portion of the corridor immediately south of Milton; and, the 2002 Johnson Creek interchange improvements.

4.3.2.3 Commercial

Indirect impacts on commercial land use refers to the long-range impacts of proposed highway improvements on the quantity, quality or location of retail stores and services in the STH 26 study area. Cumulative impacts on commercial land use refers to the potential for impacts resulting from STH 26 improvements when combined with other past, present and reasonably foreseeable actions. Commercial land uses include both downtown or central business district (CBD) businesses, neighborhood convenience businesses, and highway-oriented or strip center businesses located along the major arterials approaching the communities.

No Build Alternative

The No-Build Alternative would retain existing travel patterns. For businesses such as service stations, motels, and fast-food establishments that rely on high volumes of through-traffic, the maintenance of heavy traffic along existing corridors could be perceived as beneficial. For other types of business that rely primarily on local business or are destination businesses, increasing congestion on the existing corridor and longer travel times is likely to be perceived as negative.

In general, most businesses in the downtowns or CBDs would be adversely impacted by the no build alternatives, which retain current travel patterns and would result in increased levels of through-traffic, particularly truck traffic, in the central parts of the communities. Road congestion is a particular problem for businesses in downtown Jefferson. It deters potential customers and increases the cost of delivering goods and services. This leads to the indirect impact of CBD businesses relocating to other parts of the community or to other communities.

Some highway-oriented businesses on the arterial “business strips” on the south side of Jefferson and the south side of Watertown may perceive some benefits from existing travel patterns which routes all north-south through traffic along the existing corridor. Increased traffic volume may translate to more customers for these businesses. This could attract more similar type businesses to the area. Other businesses along the arterial strips, such as retail stores and services whose customers are primarily local residents could experience a reduction in customers due to increasing congestion. This could lead to the relocation of these businesses to other communities.

Build Alternatives

Central Business District Impacts

The build alternatives that include bypasses are likely to have the long-term effect of improving central business districts (CBDs). The CBD in Jefferson, in particular could become more “pedestrian-friendly” and attractive to shoppers. Even in Watertown, where the heart of the CBD is located several blocks east of Main Street, the reduction of through-traffic on Church Street could make downtown Watertown more accessible. This could attract businesses that offer high quality goods and services, bringing more customers to the area. The shopping centers and retail businesses on South Church Street in Watertown could experience similar beneficial impacts.

Impacts Related to Locating Highway-Oriented Businesses on Bypass Corridors

A potential indirect impact to certain types of businesses could include a gradual shift in the commercial mix in bypassed communities. Highway-oriented commercial development might decrease in central cities as new highway-oriented development occurs at interchanges and at-grade intersections. This type of development pattern can be seen in Fort Atkinson where two new motels are being constructed at the interchange of USH 12 and Bypass Highway 26.

Year 2002 Johnson Creek interchange improvements combined with future STH 26 project improvements could result in the cumulative impact of further expansion of highway-oriented commercial development at the Johnson Creek interchange. This development could harm the viability of highway-oriented commercial development located in and near the Johnson Creek central business district.

Commercial Development in Rural Areas Between Communities

The proposed improvements to the STH 26 corridor between the incorporated communities are unlikely to have measurable indirect commercial development impacts. There are no rural commercial development districts along the corridor. If local land use controls that discourage rural commercial development remain effective, new rural commercial development is unlikely to occur between the incorporated cities along STH 26.

Route-Specific Indirect Impacts on Commercial Development

There are two central mixed-use districts in Milton that include commercial and office development. One is located at Parkview Drive and Old College and the other is along Merchant Row. The Parkview and Old College commercial area is within view of existing STH 26. There are two other growing commercial areas in the City, one along STH 26 south of High Street and another one on John Paul Road, just north of High Street. Both Alternatives S2 and S3 route through traffic further from all of these commercial areas which could lead to the indirect impact of decreasing customers for existing businesses and deterring new businesses from locating in these areas. Removing through traffic from STH 26 could enhance the character of historic buildings and community facilities along this route. This could lead to the indirect effect of attracting visitors and shoppers to the central mixed-use district by STH 26 and the growing commercial area along STH 26.

In Jefferson, Alternatives C2, C2(a), C2(b), and C3 would have roughly equivalent indirect commercial development impacts. The more distant bypass routes (Alternatives C1 and C4) would have slightly greater adverse impacts on existing commercial development by shifting the interchanges farther from the community and reducing access to the community. Alternative C4, in particular, would bypass the Jefferson area farther out on the north and east side.

In Watertown, Alternatives N1 and N2 would both bypass many existing businesses on the south side of the City. Generally, this is a positive impact, since most of the businesses are destination businesses or rely primarily on local traffic for their customer base. Even those businesses that rely on through-traffic, such as motels and service stations, would have relatively good access to the south interchange.

4.3.2.4 Institutional

Institutional indirect impacts refer to the long-range impacts of proposed highway improvements to either existing or planned institutional uses.

Within the STH 26 corridor study area, institutional uses include schools, churches and government facilities. Most of these local institutions are located within the incorporated communities. Several major institutions with campuses outside of communities could also be affected by highway improvements. These institutions include St. Coletta School (east of Jefferson) and the Jefferson County Farm Property (southwest of Jefferson).

No-Build Alternative

The No-Build Alternative would generally have an adverse effect on many of the local institutions, such as elementary schools and churches that are within the incorporated communities of Milton, Jefferson, and Watertown. Through-traffic would continue to be routed through the central portion of these communities, thereby making cross-town travel less convenient and impeding motor vehicle, pedestrian and bicycle circulation between residential neighborhoods and schools, churches and other institutions.

Build Alternatives

The bypass alternatives around Jefferson could have several different long-range impacts. St. Coletta School, which is located east of the City of Jefferson, could be substantially impacted by Alternative C3. Alternative C3 would utilize some of the institution's land, which is now in agricultural use, and would place a major highway between the school campus and the City of Jefferson.

This major highway would create safety hazards for the residents at the school that walk between the campus and destinations in the City of Jefferson. Although it is unlikely that Alternative C3 would cause the institution to either close or change its focus, this bypass route could affect the institution's use of land and future expansion. St. Coletta has submitted a letter, dated April 24, 2000, opposing Alternative C3 (see [Appendix A](#)).

A second institutional site that could experience long-range indirect impacts from the Jefferson bypass alternatives is the Jefferson County Farm Property located on the southwest side of the City. Several Jefferson County facilities, including the Countryside Home, Jefferson County Department Health and Services, and the UW Extension Service are located in County-owned buildings on the site. A large mixed-use Planned Unit Development (PUD) has been proposed for the 645-acre site. A letter from John Weiss, Chair, Jefferson County Planning and Zoning Committee, dated February 3, 2000 (see [Appendix A](#)) indicates that the two bypass alternatives (Alternative C1 and C2) that bisect the County's land would be "a major departure from the recently completed *Countryside Farm Master Plan*." Alternatives C1, C2, C2(a), and C2(b) would make the County Farm Property adjacent to the relocated highway less attractive for residential development. Alternatives C2(a) and C2(b) pass through the County Farm Property towards its center. Alternatives C1 and C2 pass through the south side of the Property.

All of the westerly bypasses could lead to the indirect effect of making the Jefferson County Farm Property a more attractive location for siting county facilities.

4.3.2.5 Agricultural

Indirect impacts on agricultural land use could include:

1. Impacts associated with new non-farm development that is attracted to the area by transportation improvements.
2. Impacts to farming caused by gradual changes in the farm economy due to either farm separations or the incremental loss of farms in areas that can cause the loss of agricultural infrastructure, such as farm services and suppliers, grain storage, or farm produce processors.
3. Impacts associated with improved farm to market connections and with farm to processor connections.

Cumulative impacts on agricultural land use refers to the potential for impacts resulting from the combination of STH 26 improvements with other past, present, or reasonably foreseeable future actions. STH 26 improvements combined with industrial park expansion in Milton, Jefferson and Watertown would provide a boost to the economy leading to increased residential growth. This growth would require conversion of agricultural land for residential development and increased stormwater drainage to agricultural land.

No-Build Alternative

The No-Build Alternative would tend to have the least impact on agricultural land, since no land would be directly converted to highway use and no new farmland separations or land divisions that would affect farming operations would occur. There could be an adverse impact on farm to market connections along the corridor where traffic congestion will continue to increase. Although farmland could be converted to

non-farm uses due to a variety of factors, the No-Build Alternative is not likely to be a strong contributing factor.

Build Alternatives

The Build Alternatives could have indirect agricultural impacts.

Creation of “Beltways”

In general, the bypass alternatives that are closer to the current limits of development tend to have less agricultural impact than alternatives that are further from existing development. There is a tendency for municipalities to “in-fill” land within the bypass “beltways.” This has occurred in Fort Atkinson east of the STH 26 bypass and could occur where bypasses are proposed for Milton, Jefferson and Watertown. Most of the bypass alternatives being considered are currently near the edges of urban growth, unlike the Fort Atkinson bypass at the time it was built.

Role of Local Planning and Zoning

In the case of each of the municipalities for which bypasses are proposed, the local governments have recently adopted Comprehensive Master Plans that call for the phased expansion of development areas and the conversion of farmland to non-farm uses within 20-year urban service areas. Each of the counties and the majority of towns and incorporated municipalities within the STH 26 study area have adopted land use plans and land use regulations that encourage farmland preservation and discourage the conversion of farmland to non-farm uses outside of planned growth boundaries. Land use and zoning regulations that implement the long-range urban service area concept may lessen the indirect impacts on agriculture.

Rural Impacts Between Communities

In the segments of highway between the proposed bypasses, there would be few indirect or cumulative agricultural impacts that could be attributed to highway improvements. Nearly all of the planned improvements between communities are proposed along the existing highway corridor and would incur the direct impact of right-of-way acquisition for highway widening. There would be few indirect impacts on either individual farms or the farm economy.

4.3.2.6 Park and Recreation Areas

None of the alternative routes under consideration would directly impact any public parks or privately owned recreational areas. The indirect and cumulative impacts to municipal parks and recreation lands in the area would be impacts associated with general growth and development of the area and access within the communities.

Several regionally important parks and recreational areas outside the STH 26 corridor could experience long-term indirect impacts. Aztalan State Park, which is a State-managed park and archaeological site of national significance, is located between the City of Lake Mills and the Village of Johnson Creek, approximately three miles west of the STH 26 corridor. None of the routes under consideration would directly impact either the park or adjoining archaeological sites. The improved access to the area could result in an increase in visitation to the park.

Similar impacts could be experienced by the Glacial Drumlin State Recreation Trail, which crosses the STH 26 corridor between the City of Jefferson and the Village of Johnson Creek. Improved access could have the long-range impact of increasing use of this regional recreational facility.

Alternative S3 travels in close proximity to the Storr's Lake Wildlife Area, which is located northeast of the City of Milton.

4.3.2.7 Environmental and Related Resources

Indirect impacts to environmental and related resources may also occur in areas where development is induced by the proposed action. Indirect impacts to such resources could occur in areas near access locations along the proposed facility. Wetlands, lakes, streams, natural plant communities, threatened or endangered species habitat, and other wildlife habitat could be impacted by direct land conversion for development, as well as by increased noise and rapid storm water drainage from developed areas, particularly near interchange locations.

Indirect hydrologic impacts to wetlands are discussed in [Section 4.2.2](#). As discussed in [Section 4.2.3](#), county floodplain ordinances do not allow development that is not compatible with floodplain areas.

4.3.3 Tools to Address Indirect and Cumulative Impacts

A wide range of tools is available to local governments and other agencies to mitigate and manage potential indirect and cumulative land use and socioeconomic impacts associated with highway improvements. These tools include:

Regulatory Tools

- Comprehensive Planning
- Zoning
- Extraterritorial Zoning
- Land Division Regulation
- Official Mapping
- Driveway Controls

Nonregulatory Tools

- Cooperative Boundary Agreements and Other Types of Intergovernmental Agreements
- Land Acquisition
- Purchase or Transfer of Development Rights
- Conservation Easements
- Information and Education

**TABLE 4.3.2
SUMMARY OF POTENTIAL INDIRECT AND CUMULATIVE IMPACTS
FOR COMMUNITIES IN THE STH 26 STUDY AREA**

Alternative		Tools to Address Impacts
No Build	Build	
Residential Impacts		
<p>Slow decline in local economies resulting in: less employment, gradual slowing of growth rates and reduced rates of residential construction.</p> <p>Pressure for residential development on outskirts of communities where there would be less traffic congestion.</p> <p>Lack of bypass development on the outskirts of Milton, Jefferson and Watertown could slow the rate of utility extensions and affect the direction of residential growth.</p>	<p>More compact development patterns closer to Milton, Jefferson and Watertown where bypass routes are closer to the developed portions of these communities.</p> <p>Increase in residential development farther from existing residential development centers where bypass routes are farther removed from existing growth areas.</p> <p>Reduced commuter times due to bypass alternatives could make certain areas more attractive for development.</p> <p>Future increases in residential development due to an improved economy that is the result of planned industrial expansion combined with STH 26 improvements.</p> <p>Increase in residential development on the north side of Janesville and the south side of Milton where STH 26 widening in 1999 will be combined with current bypass plans for STH 26 to make the area more accessible and therefore attractive for new residents.</p> <p>Increase in residential growth and development in the Johnson Creek area where near-term STH 26 improvements will combine with upcoming improvements to make the area more accessible and therefore more attractive for residents.</p>	<p>Comprehensive Planning and Zoning Regulations - Each of the communities where bypasses are being considered has recently adopted a land use plan and local zoning and land use controls. Some rural towns and incorporated communities have coordinated regarding both the location of the highway improvements and mitigation tools. The implementation of these locally adopted land use plans and regulations will have a much more significant impact on long-term residential development patterns than the proposed highway improvements.</p> <p>Extraterritorial zoning – Extraterritorial zoning regulates land use within either one-and-one half miles (villages or 4th class cities) or three miles (1st, 2nd or 3rd class cities) of municipal limits. Several communities along the STH 26 corridor are exploring the use of extraterritorial zoning to help control growth and development at the edges of municipalities.</p> <p>Official Mapping - Several communities in the STH 26 study area are preserving corridors for future infrastructure and drainage improvements using official mapping. Official mapping should be considered as a way to better plan for residential development induced by highway improvements.</p> <p>Comprehensive Planning and Zoning Regulations – Each of the bypass communities addresses industrial park expansion in their adopted comprehensive plans. These communities are working with WisDOT to carefully coordinate bypass alternative plans with their comprehensive plans and zoning regulations. These communities should also plan for possible residential growth that could occur as a result of new industrial jobs.</p> <p>Smart Growth Legislation - Wisconsin’s recently adopted Comprehensive Planning and “Smart Growth” Law requires that all municipalities adopt comprehensive plans by 2010 that contain the following elements: issues and opportunities; housing; transportation; utilities and community facilities; agricultural, natural and cultural resources; economic development; intergovernmental cooperation; land use; and, implementation.</p> <p>Corridor planning – WisDOT will work with communities in the STH 26 area to improve access management and land use planning.</p> <p>Agricultural preservation policies – most of the STH 26 area is protected by some form of agricultural preservation policy (see Agricultural Impacts section of this table) which can be used to lessen the pressure for residential growth in rural areas.</p>

**TABLE 4.3.2
SUMMARY OF POTENTIAL INDIRECT AND CUMULATIVE IMPACTS
FOR COMMUNITIES IN THE STH 26 STUDY AREA**

Alternative		Tools to Address Impacts
No Build	Build	
Industrial Impacts		
<p>Those communities that are not on the Interstate Highway system could find it more difficult to attract industry that relies on either truck transportation, and/or attracting employees from other areas.</p> <p>Increased costs for the delivery of both raw materials and finished goods and products for existing industries along the corridor due to long travel times and increased congestion.</p>	<p>Long-term tendency of making those communities that are not on the Interstate Highway system more attractive for new industry due to improved access.</p> <p>Decreased costs for the delivery of raw materials and finished goods for existing industries along the corridor due to shorter travel times and reduced congestion.</p> <p>Job creation and expansion of the tax base in rural and urban communities of the study area that attract new industry due to the highway improvements. New jobs and expansion of the tax base could attract additional residential development.</p> <p>Expansion of industrial parks resulting from the combination of STH 26 project improvements with recently completed STH 26 widening on a portion of the corridor immediately south of Milton and near-term Johnson Creek interchange improvements.</p>	<p>Zoning Regulations - Rural communities along the STH 26 corridor have zoning regulations and in many cases land use plans that should be used to carefully plan for new industrial development, and associated residential growth.</p>
Commercial Impacts		
<p>Increased cost of delivering goods and services to CBD businesses due to increasing traffic congestion.</p> <p>Relocation of some CBD businesses to other parts of the community or outside the community.</p> <p>Some highway-oriented businesses on the arterial "business strips" on the south side of Jefferson and the south side of Watertown may experience an increase in customers from the retention of existing travel patterns.</p> <p>New highway-oriented businesses could be attracted to the south side of Jefferson and the south side of Watertown due to heavy volumes of traffic.</p> <p>Locally oriented businesses along arterial strips could experience a reduction in customers due to increasing congestion.</p>	<p>Bypass alternatives are likely to have the long-term impact of making CBDs in Jefferson and Watertown more "pedestrian friendly" and attractive to shoppers through the removal of through traffic. This could help retain existing businesses and attract new businesses to the CBDs.</p> <p>Decrease in highway-oriented commercial development along the existing corridor and in central city commercial districts (such development is minimal and primarily includes gas stations and restaurants) to the extent that new highway-oriented development occurs at bypass interchanges and at-grade interchanges.</p> <p>Relocation of some CBD businesses to other parts of the community or outside the community.</p>	<p>Intergovernmental agreements – Intergovernmental agreements can be used to promote cooperation among adjacent town, cities and villages as they attempt to control and manage commercial development especially at highway interchanges. The City of Watertown and the Town of Emmet entered into an intermunicipal cooperation agreement on March 10, 2000. A major provision is that the City waives its extraterritorial and land division review within Town Growth Area boundaries and the Town must make its land use decisions in conformance with the City policies within City Growth Area boundaries.</p> <p>Access controls –Major state trunk highways in the STH 26 study area either have or are planned to be access controlled. County trunk highways and local roads have driveway permitting. It is the intent of WisDOT to purchase access control on side roads near interchanges and intersections where the Department does not already have access control.</p>

**TABLE 4.3.2
SUMMARY OF POTENTIAL INDIRECT AND CUMULATIVE IMPACTS
FOR COMMUNITIES IN THE STH 26 STUDY AREA**

Alternative		Tools to Address Impacts
No Build	Build	
Institutional Impacts		
Inconvenient access to institutions could shift residential growth to the outskirts of Milton, Jefferson and Watertown.	<p>The major highway crossing along Alternative C3 between the St. Coletta school campus and the City of Jefferson would create a safety impact for residents walking to and from the City. This could affect the institution's use of land and future expansion.</p> <p>Alternatives C1, C2, C2(a), and C2(b) would make the County Farm Property adjacent to the relocated highway less attractive for residential development.</p> <p>Improved access to the Jefferson County Farm Property would improve the attractiveness of the site as a regional location for county facilities.</p>	Zoning regulations – Zoning regulations should be used to control the proximity of new development to highway improvements.
Agricultural Impacts		
Through-traffic will continue to increase in Milton, Jefferson and Watertown slowing farm to market connections.	<p>STH 26 bypass alternatives located closer to the current limits of development in Milton, Jefferson and Watertown are likely to create less agricultural impact than those located further out since communities generally tend to in-fill land within bypasses (i.e. Fort Atkinson east of the STH 26 bypass).</p> <p>STH 26 improvements combined with industrial park expansion in Milton, Jefferson and Watertown would provide a boost to the economy leading to increased residential growth. This growth would require conversion of agricultural land for residential development and increased stormwater drainage to agricultural land.</p>	<p>Comprehensive Planning –</p> <p>Most of the towns, cities and villages in the STH study area have comprehensive plans that strive to preserve agricultural land and maintain their rural character.</p> <p>Exclusive Agricultural Zoning and Designation of Agricultural Preservation Areas –</p> <p>The draft Town of Milton Land Use Plan designates exclusive agricultural land use and zoning areas. Those areas that would be most impacted by the STH 26 project include land along the existing STH 26 corridor north of the City of Milton and extending to the Town of Koshkonong.</p> <p>In Jefferson County, STH 26 and its proposed alignments travel through the Town of Koshkonong, Town of Jefferson, Town of Aztalan, Town of Farmington, and the Town of Watertown. The Jefferson County Agricultural Preservation and Land Use Plan designates agricultural preservation areas along STH 26 in all of these towns. In Dodge County, STH 26 and its proposed alignments travel near the Town of Shields and through the Town of Emmet and the Town of Clyman. The Town of Shields utilizes exclusive agricultural zoning.</p>
Impacts to Park and Recreation Areas		
No apparent indirect impacts.	<p>Aztalan State Park, located between the City of Lake Mills and the Village of Johnson Creek, approximately three miles west of the STH 26 corridor could experience an increase in visitation due to improved access.</p> <p>The Glacial Drumlin Trail could experience an increase in usage due to improved access.</p>	

4.3.3.1 Comprehensive Planning

Communities in Wisconsin are empowered to adopt comprehensive or master plans. The various Wisconsin Statutes that enable local comprehensive planning include Chapter 59 (Counties), Chapter 60 (Towns), Chapter 61 (Villages) and Chapter 62 (Cities) of the Wisconsin Statutes. Wisconsin's recently adopted Comprehensive Planning and "Smart Growth Law" requires that by January 1, 2010, all local governments that intend to take local land use related actions regarding any ordinance, plan or regulation must adopt a comprehensive plan. This comprehensive plan must meet certain specific elements outlined in the new legislation. Those local governments that do not want to engage in activities affecting land use do not have to create a comprehensive plan. Funds are being made available to provide assistance to local governments to meet the new comprehensive planning requirements.

In the STH 26 corridor study area, most of the local units of government have recently adopted master plans or comprehensive plans. All of the incorporated municipalities along the STH 26 corridor adopted master plans within the past several years. Most of the plans were professionally prepared and provide excellent guidance on community growth.

Jefferson County and Dodge County have countywide land use plans adopted within the past two years. Rock County has been providing assistance to each town in the county to develop land use plans.

Nearly all of the adopted master or comprehensive plans in the STH 26 study area include the delineation of the long-range urban service areas that identify areas where urbanization is expected to occur. Most of the local plans have anticipated improvements and/or bypasses for STH 26 in their long-range planning.

4.3.3.2 Zoning

Municipalities in Wisconsin are enabled to regulate land uses at the local level through zoning. Through Section 62.23 of the Wisconsin Statutes, cities and villages are enabled to adopt local zoning. Towns may either participate in county zoning or adopt a local town zoning ordinance.

Either municipal or county zoning regulates most of the land area within the STH 26 study area.

In Rock County, the City of Milton and the Town of Milton have local zoning ordinances. Both municipalities cooperate closely with Rock County officials.

In Jefferson County, all of the incorporated municipalities have adopted zoning ordinances and all of the towns are regulated by the Jefferson County Zoning Ordinance.

In Dodge County, the Village of Clyman, Hustisford, and Reeseville have local zoning. Several of the townships do not have local zoning.

4.3.3.3 Extraterritorial Zoning

Through Section 62.23 (7a) of the Wisconsin Statutes, cities, villages, and towns are enabled to adopt extraterritorial zoning ordinances regulating land uses within either one-and-one-half miles (villages or 4th class cities) or three miles (1st, 2nd or 3rd class cities) of municipal limits. Implementation of extraterritorial zoning requires cooperation between the incorporated municipality and surrounding town(s). Several of the communities along the STH 26 corridor are currently exploring the use of extraterritorial zoning to help control growth and development at the edges of municipalities.

4.3.3.4 Land Division Regulations

Wisconsin Statutes Chapter 236 enables cities, villages, towns, and counties to adopt land division regulations to control the creation of lots through Certified Survey Maps (CSMs) or Subdivision Plats. Cities and villages may unilaterally implement land division controls within their extraterritorial jurisdictions that extend outside the municipal boundaries.

Each of the three counties and all of the incorporated municipalities in the STH 26 study area regulate lot creation. Many of the towns have also adopted town land division regulations.

The most restrictive regulations apply where a particular piece of land is regulated by overlapping land division regulations of the county, incorporated municipality or town.

4.3.3.5 Access Controls

Access controls – Major state trunk highways in the STH 26 study area either have or are planned to be access controlled. County trunk highways and local roads have driveway permitting. It is the intent of WisDOT to purchase access control on side roads near interchanges and intersections where the Department does not already have access control.

4.3.3.6 Official Mapping

Cities and villages are enabled by Section 62.23(6) of the Wisconsin Statutes to adopt “official maps” to reserve land for roads, drainageways, parks or other public purposes. The “official mapping” tool is used by several of the communities in the STH 26 study area to preserve corridors for future infrastructure and drainage improvements.

4.3.3.7 Intergovernmental Agreements

Several different types of intergovernmental agreements are used by communities in Wisconsin to control and manage growth. Communities are enabled through Section 62.023, of the Wisconsin Statutes to adopt cooperative plans and agreements; Section 66.021, Wisconsin Statutes allows local units of government to adopt annexation agreements; Section 66.027 of the Wisconsin Statutes addresses setting municipal boundaries by judgments; and Section 66.030 enables general agreements between municipalities.

A number of communities in the STH 26 study area have explored the use of each of these types of agreements in various combinations to address annexations and other development issues. The City of Watertown and the Town of Emmet entered into an intermunicipal cooperation agreement on March 10, 2000. A primary stated purpose of the agreement is to promote orderly growth within both jurisdictions while minimizing uncertainty and conflict. A major provision of the Agreement is that the City waives its extraterritorial and land division review within Town Growth Area boundaries and the Town must make its land use decisions in conformance with the City policies within City Growth Area boundaries. Increasingly, intergovernmental agreements are being used to address intergovernmental development disputes.

In the fall of 2004, the Cities of Janesville and Milton and the Town of Harmony passed resolutions affirming their intent to pursue an intergovernmental agreement to support non-commercial land uses in the vicinity of the proposed diamond interchange on STH 26 at Harmony Town Hall Road. Copies of the individual resolutions are in [Appendix B](#).

4.3.3.8 Land Acquisition

Governments and nongovernmental organizations can direct and control highway-induced impacts by acquisition of land for the protection of open space. This has become an increasingly important tool in preserving open spaces and “green belts” around communities. In the STH 26 study area, several land trusts have been established for the purpose of acquiring and protecting open spaces.

4.3.3.9 Purchase of Development Rights

The Purchase or Transfer of Development Rights (PDR or TDR) is another valuable tool for managing growth and development. Both Dodge and Jefferson County have considered the feasibility of using PDR and TDR in their comprehensive planning process. Private land trusts are also using PDR as a means of protecting critical natural areas and open spaces.

4.3.3.10 Conservation Easements

Another tool very closely related to PDR is the acquisition of conservation easements by either local governments or nongovernmental organizations to preserve open space while at the same time keeping land in private ownership. WisDOT and other transportation agencies around the country have successfully used this tool to protect critical scenic areas and vistas or other unique resources along roadways.

4.3.3.11 Information and Education

The use of more general information and education programming plays an important role in informing the public about land use planning and development issues. In the STH 26 study area, each of the counties and the University of Wisconsin Extension Service provide excellent public information programs and published literature on land use issues.

4.3.3.12 Wisconsin Department of Transportation Role

The Wisconsin Department of Transportation is interested in continuing to work with local communities on access issues and to encourage local land use planning and growth management. WisDOT is proposing to work with local governments along STH 26 from Janesville to STH 60 to prepare a comprehensive corridor plan for access management, future land use, and future road networks on and adjacent to STH 26.

4.4 RELATION OF LOCAL SHORT-TERM USES OF THE HUMAN ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

The short-term impacts of the proposed action and the use of the resources for it are deemed consistent with the maintenance and enhancement of long-term productivity for the local area and the State of Wisconsin.

Short-term losses to the environment will occur during construction. These losses will include adverse noise, air quality and water quality impacts as well as the loss of resources, fuel and materials used in construction. In addition, impacts to vegetation and wildlife will be most severe during the short-term

construction process. Other short-term effects to the environment include temporary disruption of traffic patterns and utility services and the loss of tax revenue.

The proposed project will result in long-term gains in several areas. The facility will reduce traffic congestion on the existing facility and will increase overall traffic safety in the project area by removing regional traffic, including heavy truck traffic, from historic and downtown areas in Jefferson and Watertown. The improved quality of the local, regional, and state transportation system will result in improved accessibility to many areas, resulting in better fire, police and ambulance service, as well as reducing travel time, fuel consumption, and diversion of regional traffic to county and local roads. Economic development opportunities will be increased.

Gains accomplished through the project will be accompanied by potential long-term losses. Relocations of persons and businesses will cause some long-term impacts on an individual basis. The character of the land near the project will be changes by its construction, and in some areas, will result in a long-term environmental loss. Homes, businesses, farmland and woodland to be acquired for the project will thus be lost to their existing uses or to any other potential future uses.

4.5 IRREVERSIBLE OR IRRETRIEVABLE COMMITMENTS OF RESOURCES

Construction of the proposed highway involves commitment of a range of natural, physical, human, and fiscal resources. Land acquired for construction of the proposed facility is considered an irreversible commitment during the time that the land is used for highway purposes.

Considerable amount of fossil fuels, labor, and highway construction materials, such as cement, aggregate, and asphaltic material, will be required. Additionally considerable labor and natural resources will be used in the preparation of the construction materials. These resources are not retrievable. These materials are not in short supply, and their use will not have significant adverse effect on their continued availability. Construction of the alternatives would involve diversion of non-retrievable funds from other areas.

The commitment of these resources is based on the concept that residents in the immediate area, State, and region will benefit by the improved quality of the transportation system. These benefits will consist of improved accessibility and safety, savings in time, and greater availability of quality services, which are anticipated to outweigh the commitment of these resources.

4.6 MEASURES TO MINIMIZE AND MITIGATE ADVERSE IMPACTS

Section 101(b) of the National Environmental Policy Act (NEPA) requires that federal agencies incorporate into their project planning all practicable measures to mitigate adverse environmental impacts resulting from a proposed action.

The following section summarizes concept-level mitigation measures that have been identified as appropriate to minimize adverse environmental impacts for the alternatives under consideration. Agency coordination and contacts with individual property owners will continue throughout the engineering design phase of the project. During that time, mitigation measures will be developed in more detail. Final mitigation will be incorporated into the final engineering plans and specifications for this project.

4.6.1 Traffic

A traffic management plan will be developed and implemented to ensure reasonable access to residences, businesses, farm parcels, community services, and local roads during construction. Work will be staged to minimize disruption during the construction period. Lengthy detours to other routes will be minimized. To minimize delays to emergency vehicles, WisDOT will coordinate construction activities, sequencing, and traffic management plans with local fire, police, and emergency rescue services.

A sidewalk will be provided along one side of Storr's Lake Road east of Milton at the structure crossing of STH 26 to accommodate pedestrian usage of a future National Park Service (NPS) Ice Age Trail.

4.6.2 Farmlands

Mitigation for impacts to farmlands, especially access, will be determined on a case-by-case basis during the final design of the project. WisDOT will work closely with all affected property owners and make every effort to provide acceptable access to the remainder of the property. WisDOT may also make offers to purchase property remainders determined uneconomic to the owner. Access to local road networks will be restored to farm operations. Full consideration will be given to any recommendations in the Agricultural Impact Statement (AIS) regarding farmland mitigation.

4.6.3 Acquisition/Relocation

The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 as amended provides for payment of just compensation for property acquired for a federal aid project. In addition to acquisition price, costs for the replacement dwelling, moving expenses, increased rental or mortgage payments, closing costs, and other valid relocation costs are covered. No person will be displaced unless a comparable or better replacement dwelling is provided. All of the above resources are available to all displaced persons without discrimination.

Before initiation of any property acquisition activities, property owners will be contacted to explain the details of the acquisition process and Wisconsin's Eminent Domain Law under Section 32.05, Wisconsin Statutes. Any property acquired will be inspected by one or more professional appraisers. The property owner will be invited to accompany the appraiser during inspection of the property to ensure that its value is recognized in an appraisal. Based on the appraisal(s) made, the value of the property will be determined and that amount offered to the owner. The property owner may obtain an independent appraisal. In the event agreement on the fair market value cannot be reached, the property owner will be advised promptly of the procedure to follow in making an appeal.

In addition to fair market value, costs for the business location, moving expenses, increased rental or mortgage payments and closing costs, the relocation program covers other valid relocation costs. No person will be displaced unless a comparable business location, or other compensation where a suitable replacement business location is not practicable, is provided.

The WisDOT Real Estate Section estimates the typical residence relocation process requires between 6 and 12 months, and businesses and farms need an additional six months. If difficulties are encountered in finding acceptable relocation opportunities, WisDOT will extend the right of way acquisition period until relocation can be accomplished. A detailed discussion of relocation impacts and costs, available relocation housing, and relocation assistance information and advisory services is provided in the Conceptual Stage Relocation Plan, which is attached as Appendix E.

A need for special relocation advisory services is not anticipated because at this time there is no indication that any unusual problems exist on this project. A need for remedies for insufficient relocation housing is not anticipated because at this time there is no indication that there would not be sufficient housing available for the relocations for this project.

4.6.4 Surface Water Resources

The use of bridges rather than culverts allows streams to maintain a natural bottom, permits aquatic vegetation to grow, and provides a more varied gradient to facilitate movement of fish upstream. Bridge structures will be used at non-intermittent stream crossings where it is determined in consultation with the WDNR that use of a culvert would adversely impact sensitive aquatic habitat.

Construction in or near waterways and wetlands will be done in accordance with the Standard Specifications or Special Provisions to minimize erosion and sedimentation. Temporary and permanent erosion control methods may include silt fences, retention basins, detention ponds, interceptor ditches, seeding and sodding, riprap of exposed embankments, erosion mats, and mulching.

Structure sizing will be done in accordance with state and federal guidelines regarding floodplain encroachment and hydraulic capacity. Drainage systems, including ditches on private lands, will be maintained, restored, or reestablished in a manner that will not impound water, unless it is to reestablish farm ponds. Permanent retention facilities will be considered in areas adjacent to streams and wetlands such that roadway runoff will be intercepted before entering the waterway.

The USCOE has expressed interest in provision of a buffer zone as part of the Preferred Alternative for the Storr's Lake Wildlife Area (see June 21, 2004 comment letter in Section 7.3). WisDOT is committed to providing a 200-500 foot buffer strip adjacent to the Storr's Lake Wildlife Area, and will do so by acquiring the land from a newly developing subdivision that remains between the highway and the wildlife area.

The USEPA has expressed concern about the indirect effects of storm water runoff from the Preferred Alternative on sensitive water bodies, especially near the Storr's Lake Wildlife Area (see February 2, 2004 comment letter in Section 7.3). WisDOT is committed to minimizing such impacts. WisDOT will establish a 200-500 foot buffer zone near Storr's Lake Wildlife Area, and will commit to implementing the following EPA recommendations:

- The use of a two-cell sedimentation basin system designed to filter larger and finer particles;
- The use of native vegetation in the sedimentation system; and
- Other design considerations that would reduce the possibility of roadway contaminants affecting these water bodies (e.g., man-made berms).

It is anticipated that any buffer zone created near the Storr's Lake Wildlife Area will remain in public ownership and will be maintained by the responsible public agency.

4.6.5 Wetlands

Presidential Executive Order 11990, Protection of Wetlands, requires all federal agencies to avoid to the extent practicable, long- and short-term adverse impacts associated with the destruction or modification of wetlands. More specifically, the order directs agencies to avoid new construction in wetlands unless there

is no practicable alternative and states that where wetlands cannot be avoided, the proposed action must include all practicable measures to minimize harm to wetlands.

Avoidance and minimization of wetland losses were important considerations throughout the scoping and alternative development process and in the selection of the Preferred Alternatives, as discussed in Section II. In accordance with various state and federal agency policies and mandates for wetland preservation, following is a summary of wetland mitigation strategies for the STH project.

4.6.5.1 Avoid Wetlands

Because of the amount of wetland along the STH 26 corridor and the proximity to the highway, it is not possible to completely avoid wetland encroachment. The locations of the Build Alternatives, including the Preferred Alternatives, were developed to avoid wetlands where practical in view of other impact trade offs, including farmland acquisition and severances and residential and business relocations.

4.6.5.2 Minimize Wetland Impacts

Planning for the proposed project includes all practicable measures to minimize harm to the wetlands that may result from the project. Measures that will be taken during final design to minimize wetland impacts include the following:

- Water quality impacts from silt and sedimentation will be minimized through the strict adherence to erosion control measures as required by WisDOT's *Specifications for Road and Bridge Construction*.
- Additional measures that will be considered include use of steeper embankment slopes, narrowed median or use of retaining structures.

4.6.5.3 Conceptual Wetland Mitigation Plan

Although wetland encroachments have been avoided and minimized to the extent practical, the Build Alternatives will acquire wetlands. To compensate for unavoidable wetland impacts from the project, mitigative measures will be employed in accordance with requirements of Section 404 of the Clean Water Act and the July 20, 1993, Interagency Cooperative Agreement between the Wisconsin Department of Transportation (WisDOT), Wisconsin Department of Natural Resources (WDNR), U.S. Army Corps of Engineers (USACE), U.S. Environmental Protection Agency (USEPA), U.S. Fish and Wildlife Service (USFWS), and Federal Highway Administration (FHWA). A Section 401 Water Quality Certification and a Section 404 permit application will be submitted to USACE during the final design phase of the project. The Section 404 permit and preliminary wetland mitigation design will be developed in coordination with WDNR, USACE, USEPA, and USFWS.

The long-term goal of the conceptual wetland mitigation plan for this project is to provide functional replacement of the types of wetlands unavoidably lost for a no net-loss of wetlands. A wetland delineation was performed along the Preferred Alternatives to calculate actual wetland impacts and determine the compensatory wetland mitigation acreage required.

Wetland replacement will be pursued by wetland restoration, wetland creation, or debiting a wetland mitigation bank site. Compensatory mitigation will be pursued preferably by restoring previously drained and/or altered wetlands within the same watershed as the Preferred Alternative. A wetland mitigation site

adjacent to the project corridor would replace the wetland functions and values impacted by the project within the same watershed and could also mitigate floodplain impacts from the project through increased floodwater storage capacity.

If the development of a wetland mitigation site is found to be not feasible, the wetland impacts from the project will be mitigated at an existing wetland mitigation bank site. Mitigation ratios will be in accordance with the “WisDOT Wetland Mitigation Banking Technical Guideline” which establishes a program for compensatory wetland mitigation banking for WisDOT projects. The nearest operating mitigation bank site is the Prince’s Point Mitigation Bank, located in Jefferson County, Wisconsin.

Wetland Mitigation Site Search

A wetland mitigation site search was completed in January 2003 in cooperation with the WDNR, USACE, USEPA, USFWS, and FHWA to locate potential wetland mitigation sites within the watershed. The wetland mitigation site evaluation considered potential land parcels with greater than 80 acres (32 ha) eligible for mitigation, based on a 1.5:1 mitigation ratio. Larger mitigation sites were also identified to evaluate the potential for establishment of a mitigation bank site for future WisDOT projects in southern Wisconsin.

Preliminary wetland mitigation sites were chosen according to the presence of previously drained or otherwise altered hydric soils as identified from the National Resources Conservation Service (NRCS) Hydric Soil Lists for Rock, Jefferson, and Dodge Counties. Sites must also be classified as Prior-converted (PC) cropland by the NRCS for WisDOT to receive credit. Advanced reviews of prospective sites involved the determination of the necessary hydrologic manipulations, vegetation re-establishment, ownership and management. Criteria used for on-site selection were as follows:

- Preference was given to on-site or nearby restorable areas within the same watersheds as wetland takings as per the WisDOT/WDNR Cooperative Agreement.
- Preference was given to sites with similar functions and/or values to those taken.
- Preference was given to sites available on the open market, those possessed by lending institutions, or those available from willing sellers on or within a general 2.5-mile (4.0-km) distance from the right of way pursued most aggressively.
- Preference was given to sites with preferred soil types, including all those exhibiting poorly drained or very poorly drained characteristics.

Seventeen potential wetland mitigation sites were identified and evaluated (see [Table 4.6.5.3](#)). Nine potential mitigation sites meet the technical requirements for compensatory wetland mitigation. The sites are currently in agricultural uses. Prior converted cropland areas, depressional areas, or stream channels are present at all nine sites. All of the sites are accessible from the proposed highway or access roads and have landowners that are willing to sell property to WisDOT or enter into a conservation easement for wetland restoration.

The site search recommendation is to pursue on-site wetland mitigation adjacent to the Preferred Alternative at Site J-11 to compensate for riparian wetland impacts associated with the project. This site is landlocked by the Preferred Alternative and will be acquired as part of the project. In a March 3, 2004

letter (see Section 7.3), WDNR concurred with completing wetland mitigation for riparian impacts at Site J-11.

Non-riparian wetland mitigation is recommended at one of three sites located near the Preferred Alternative. In correspondence dated March 3, 2004 (see letter in Section 7.3), the WDNR recommended near-site wetland mitigation occur at Site J-1, J-3, or J-7. If Site J-7 is determined not feasible during final design, near-site wetland mitigation is recommended at one of the remaining sites (J-1 or J-3).

WisDOT will participate in the acquisition of land for restoration with cooperation from the WDNR and other private and public agencies. Acquisition and restoration design alternatives will follow the direction of WisDOT environmental staff and project managers following their internal review of the available sites.

Proposed Restoration Methodologies

Wetlands impacted are expected to be replaced at a 1.5:1 ratio with additional or alternative arrangements according to the WisDOT/WDNR Cooperative Agreement. On March 3, 2004 WDNR concurred with the 1.5:1 wetland mitigation ratio and a 4:1 credit for upland areas restored with native species (see letter in Section 7.3). The ratio will vary from 1.0:1 to 3.0:1 if the mitigation is located at a bank site. Restorations within the right of way could yield similar functional benefits to those existing now while selection of a larger site along the corridor or adjacent to the right of way could yield a more ecologically complete restoration with additional functions and values.

Restoration efforts will focus on the restoration of altered hydrology and soils through topographic manipulations and revegetation through natural regeneration from the seedbanks, wetland salvage or seeding. Actual methodologies used for restoration will be determined by individual site characteristics, but in general will involve a combination of biological and engineering methodologies to restore desirable hydrology and vegetation. The preliminary wetland mitigation design will include hydrological analysis and water level monitoring of the site to assist in predicting the hydrologic regimes and expected plant communities. Specific wetland mitigation techniques may include removing existing drain tiles, installing ditch plugs, restoring existing stream banks for stabilization, minor grading to establish varying wetland habitats and irregular shorelines, and construction of water level control structures. Other considerations will include maintenance and development costs, site monitoring requirements, and establishing long-term ownership and management responsibility to preserve the wetland.

**TABLE 4.6.5.3
POTENTIAL WETLAND MITIGATION SITE SUMMARY**

*Site No.	Legal Description	Approx. Parcel Size, Ac (ha)	Approx. Restoration Area, Ac (ha)	Screening Criteria Comments
D-1	SW ¼ of SEC 16, T10N R15E	94 and 40 (38 and 16)	80 (32)	Landowner interested in easement, property will be severed from house after highway upgrade.
D-2	W ½ of SE ¼, SEC. 29 T11N R15E	72 (29)	50 (20)	Site is too small to meet project objectives, not easily restored. Landowner not contacted.
J-1	E ½ of the E ½ and the N ½ of the NE ¼, SEC. 31, SW ¼ of Sec. 30 and 32, T7N R16E	342 (138)	300 (121)	Willing seller. Large tract of muck soils drained by ditches. Possible bank site. WDNR property and State Bike Trail adjacent to the south. WisDOT Statewide Wetland Mitigation Bank Site candidate.
J-2	W ½ of NW ¼, SEC. 34 T7N R16E	75 (30)	70 (28)	Willing seller. Site has hydric soils, is adjacent to a large wetland complex. Site is smaller than desired. STH 26 on-site wetland mitigation site candidate.
J-3	S ½ of NW ¼ and SW ¼, SEC 33 T7N R16E and N ½, SEC. 4 T6N R16E	511 (207)	375 (152)	Willing seller. Large tract of hydric soils drained by ditches. Close to State Bike Trail. WisDOT Statewide Wetland Mitigation Bank Site candidate.
J-4	N ½ of NW ¼, SEC. 4 T5N R13E	45 (18)	40 (16)	Restorable area too small to meet objectives of this project. Landowner not contacted.
J-5	SE ¼ of NE ¼, SEC. 7, T6N R14E, JEFFERSON	40 (16)	35 (14)	Restorable area too small to meet objectives of this project. Landowner not contacted.
J-6	E ½, SEC. 18, T6N R14E	115 (47)	35 (14)	Restorable area too small to meet objectives of this project. Landowner not contacted.
J-7	NE ¼, SE ¼, and SW ¼, SEC. 30 and NW ¼ NE ¼ of SEC. 31, T7N R13E	495 (200)	300 (121)	Willing seller. Property is located adjacent to planned WRP parcel and State Bike Trail. WisDOT Statewide Wetland Mitigation Bank Site candidate.
J-8	S ½ of Sec. 30 and NW ¼, Sec. 31, T8N R14E	374 (151)	240 (97)	Willing seller. Parcel in floodplain with ¾ mile of frontage on the Crawfish River. Part of Fayville Prairie restoration area.
J-9	S ½, Sec. 19, T8N R14E	140 (57)	125 (51)	Willing seller. Parcel in floodplain with ¼ mile of frontage on Crawfish River. Part of Fayville Prairie restoration area.
J-10	SW ¼ of SW ¼, Sec. 25 and W ½ of W ½, Sec. 36, T7N R13E	173 (70)	80 (32)	Owner is actively selling the property. The property is located in a depression area with hydric soils. Land is adjacent to the Lake Mills State Wildlife Area.
J-11	SW ¼ of SW ¼, Sec. 3 and SE ¼ of SE ¼, Sec. 4, T6N R14E	65 (26)	60 (24)	Once highway is completed, property will be owned by WisDOT. Site is in the floodplain of the Crawfish River. STH 26 on-site wetland mitigation site candidate.
R-1	NE ¼, SEC. 10, T4N R13E	101 (41)	60 (24)	Area not easily converted into wetland. Landowner was not contacted.
R-2	NW ¼ of SW ¼, SEC. 1, T4N R13E	40 (16)	20 (8)	Restorable area too small to meet objectives of this project.
R-3	S ½, Sec. 17 and NE ¼, SEC. 20 T4N R14E	377 and 40 (153 and 16)	220 (89)	Landowner unwilling to sell. Easily restored. Possible bank site. Adjacent to Lima Creek State Wildlife Area.
R-4	SW ¼, SEC. 16 and NW ¼ and W ½ of NE ¼, SEC 21, T4N R14E	389 (157)	160 (65)	Landowner unwilling to sell. Easily restored. Possible bank site. Adjacent to Lima Creek State Wildlife Area.

A landscaping and site revegetation plan will be developed to restore the wetland mitigation site following construction. Local intact wetlands and those impacted by road construction will serve as reference communities to determine restoration activities. Exotic species such as purple loosestrife or reed canary grass or those species capable of altering or degrading restored or partially impacted wetlands will be avoided. Salvage of desirable plants, rootstocks, and soils from the right-of-way will be used as needed to avoid or minimize seeding costs or preserve local biotypes or desirable species. Buffer areas of uplands and/or existing wetlands will be included if possible to provide a complete restored system.

Monitoring and Management

To determine the success of the restored wetlands, the detailed design will include a monitoring and corrective action/management program in accordance with the WisDOT/WDNR Cooperative Agreement and COE 404 permit requirements. On-site supervision of original construction by qualified biologists and engineers will be used so that the contract specifications are followed. Design details and techniques will vary according to wetland types. WisDOT will provide design, biological, and engineering services for the restoration plan. Restoration, design and construction will be completed prior to or concurrently with the construction of the roadway unless requested otherwise.

4.6.6 Floodplains

Presidential Executive Order 11988 requires federal agencies to avoid the long- and short-term adverse impacts associated with the occupancy and modification of floodplains, and to restore and preserve the natural and beneficial values served by floodplains. In implementing the Executive Order, it is FHWA's policy to:

- Encourage prevention of uneconomic, hazardous or incompatible use and development in the floodplain.
- Avoid longitudinal or other significant encroachments where practicable.
- Minimize impacts that adversely affect base flood plains.
- Restore and preserve the natural and beneficial floodplain values.
- Avoid support of incompatible floodplain development.
- Be consistent with the intent of the Standards and Criteria of the National Flood Insurance Program and local floodplain management.

Central Segment Alternatives C2, C2(a), and C2(b) involve encroachment in the floodplain of the Crawfish River in Jefferson County. Alternatives C2 and C2(a) are expected to raise the base flood elevation of the regional (100-year) flood by a maximum of approximately 0.08 foot (0.02 m). Alternative C2(b) is expected to raise the base flood elevation of the regional (100-year) flood by a maximum of approximately 0.04 foot (0.01 m). The principle mitigation measures are those that reduce the potential for interruption of a transportation facility needed for emergency vehicles of evacuation; reduce potential risk of property loss or hazard to life; and preserve or restore natural and beneficial floodplain values.

The proposed highway will be designed to have adequate freeboard to prevent encroachment of water on the pavement in the regional (100-year) flood event. The improvement will enhance capability for emergency vehicle response.

Jefferson County regulates development in the floodplain, and the applicable local floodplain ordinance is in compliance with Wisconsin Administrative Code NR 116. The purpose of the floodplain regulation is to protect human life, health, and to minimize property damage and economic loss. The proposed improvement is consistent with floodway development standards provided that amendments are made to the official floodway lines, regional flood profile, floodplain zoning maps, and floodplain zoning ordinances and provided that the local unit of government agrees to such changes. WisDOT will complete the required analysis to revise the regulated floodplain in accordance with the criteria in Wisconsin Administrative Code NR 116.11 during final design and prior to construction of the facility. WisDOT will coordinate with the Federal Emergency Management Authority, WDNR, and Jefferson County to obtain permission to revise the regulated floodplain and to complete the required revision.

Economic loss as a result of floodplain impacts on croplands can be mitigated by compensation to riparian property owners for flowage easements. These easements would cover lands which are not currently inundated by the regional flood but which would be within the revised floodplain.

Natural and beneficial floodplain values associated with wetlands will be mitigated. Wetlands are discussed separately above.

4.6.7 Upland Habitat and Wildlife

Minimizing wildlife habitat impacts was considered in development of all alternatives. Attempts were made to avoid wooded and wetland areas. Where wooded areas were not avoidable, fragmenting of woodlands was minimized. Where wetland areas were not avoidable, wildlife habitat will be considered when selecting the wetland mitigation site.

4.6.8 Natural and Conservancy Areas

Adjustments of the horizontal alignment and grade for the Preferred Alternative during the design phase of the project may be possible to further reduce the area impacted by construction. One natural plant community being crossed is not avoidable under all build alternatives. This is the crossing of the natural plant community along the Rock River. Consideration will be given to provide a clear span of the river to reduce the impacts associated with constructing a bridge pier in the water.

Based on comments received from agencies on the DEIS, the Preferred Alternative S3 was shifted approximately 2,000 feet to the east to avoid crossing the Otter Creek natural plant community. This alignment shift results in STH 26 crossing Otter Creek outside of the natural plant community and avoids impacts to Otter Creek at the proposed STH 26 and CTH N interchange. See [Exhibit 8](#) for a map of the Preferred Alternative S3.

4.6.9 Archaeological Resources

Following the selection of the Preferred Alternatives, consultation was undertaken with the SHPO and Native American consulting tribes. Phase I field investigations were then conducted in 2001 on those portions of the Preferred Alternative corridor not investigated previously. Phase II evaluation studies were then performed on potentially eligible sites to evaluate their eligibility for the NRHP. Archaeological survey was completed for 2,220 acres of the Preferred Alternatives, representing 91% of the total acreage. The remaining 295 acres still needs to be surveyed, either because access permission was denied by landowners or because it was not possible to contact landowners. These parcels will be surveyed after WisDOT acquires the properties. Archaeological surveys will be completed for any changes to the corridor alignment that may occur during final design.

The archaeological investigations conducted between 1999 and 2001 resulted in the identification of 44 archaeological sites within the Preferred Alternative corridors (Table 4.2.9.2). Phase I evaluations indicated that 34 of these sites did not meet the criteria for inclusion on the NRHP. Phase II investigations carried out at six sites determined that they are eligible for inclusion on the NRHP. The remaining four sites will have additional testing to determine if they are eligible for inclusion in the NRHP once landowner permission can be obtained or WisDOT has acquired the property.

In the South Segment, only a single site (the Finch Site) was determined to be eligible for the NRHP. In the Central Segment, two sites (Bielke and Hinstorff) were determined to be eligible for the NRHP. In the North Segment, three sites (Sauerhammer, Lee Rickerman, and Strauss Neis) were determined to be eligible for the NRHP. All of these sites were determined to be significant under NRHP criterion D, "Property has yielded or is likely to yield information important in prehistory or history."

Design modifications made subsequent to the archaeological surveys have allowed both of the NRHP-eligible sites in the in the Central Segment to be avoided. It will not be possible to avoid the four NRHP-eligible sites in the South and North segments.

During the design phase of project development, minor modifications of the horizontal and vertical alignments may be possible to further reduce the number of features impacted within each of the four NRHP-eligible archaeological sites. WisDOT will consider lengthening the bridge at the Rock River crossing south of Watertown to minimize impact to the Lee Rickerman site. Consideration will be given to narrowing of the median width or steepening sideslopes to reduce the area of impact at all impacted archaeological sites. The usefulness of such measures in reducing historic impacts must be balanced against negative impacts to route safety.

In consultation between FHWA, SHPO, and WisDOT, data recovery plans have been developed specific to each of the four NRHP-eligible archaeological sites to mitigate the project's effect upon them. These data recovery plans include appropriate curation of artifacts for preserving future educational/research for the four archaeological sites. The four sites are: the Finch Site (47JE 902), the Sauerhammer Site (47JE 185), the Lee Rickerman Site (47JE 1140), and the Strauss-Neis Site (47JE 1142).

Temporary fencing for the two archaeological sites located in the Central Segment that were determined eligible for listing on the National Register but were avoided by redesign of the project will be included in the construction plans to prevent inadvertent disturbance of these sites during construction. The two sites are: the Beilke Site (47JE 677), and the Hinstorff Site (47JE 1068).

Temporary fencing around untested portions of four additional archaeological sites that are outside the project right-of-way will be included in the construction plans to ensure they are not inadvertently disturbed during construction. The four sites are: the Seneca Site (47DO 668), the Stade Site (47JE 1125), the Pitzner I Site (47JE 677), and the Bombard School Site (47JE 1076).

For these sites and for the areas along the Preferred Alternative that have not been surveyed to date, a Memorandum of Agreement (MOA) has been developed in consultation with the SHPO. The MOA specifies the nature and extent of the Phase III data recovery efforts that will be required at these sites prior to construction. A copy of the MOA is presented in Appendix F.

All Section 106 requirements relating to archaeological sites have been fulfilled.

4.6.10 Air Quality

The project area meets national and state air pollution attainment criteria. Therefore, no transportation control measures apply to the project area.

As part of an overall strategy to reduce pollution, the project will utilize energy efficient lighting to the extent feasible. No specific lighting requirements have been identified at this time.

Fugitive dust from the project will be prevented as required by Wisconsin Administrative Code NR 415.04(1). Dust control during construction would be accomplished in accordance with the WisDOT's *Standard Specifications for Road and Bridge Construction* (1989), which requires the application of water or other dust control measures during grading operations and on haul roads to minimize the dispersion of dust. The Standard Specifications also require all vehicles hauling materials to or from the site to use appropriate measures, including covers or protective devices, to prevent dust dispersion.

The location and operation of concrete batch plants and asphaltic batch plants will be in accordance with the Standard Specifications and any Special Provisions developed during coordination with the WDNR regarding air quality standards and emissions.

4.6.11 Noise

4.6.11.1 Traffic Noise

Noise abatement measures considered for this project included:

- Traffic management measures (e.g., reduced speed limits, prohibition of trucks).
- Alteration of horizontal or vertical alignment.
- Construction of noise barriers.

Traffic management measures applied to the proposed facility are not deemed to be reasonable and feasible since this project is intended to improve mobility within the area. Therefore, traffic management abatement measures are not proposed.

The horizontal alignments for the proposed alternatives have been designed to minimize overall impacts, including environmental impacts and impacts to existing development along the corridor. Most of the properties having noise impacts are located along existing STH 26 in the urban areas. Alignment modifications along existing STH 26 are not feasible due to adjacent development. Therefore, alignment modifications in the urban areas for noise abatement purposes are not proposed.

Noise impacts in the rural areas will be further evaluated during the detailed engineering design phase to determine whether mitigation measures can be developed to minimize noise impacts. Design features that will be considered to minimize noise are depressed roadway, earthen berms, or increased distances from the receptor.

Construction of noise barriers was investigated for all noise impacted receptors along the project. In order for noise barriers to be constructed, they must be both feasible and reasonable:

- Feasibility relates to physical and acoustical restraints. Barriers are feasible where terrain, access, safety or other physical constraints do not preclude them, and where they are able to achieve a substantial noise reduction. A reduction of 8 to 10 dBA would be considered substantial.
- Reasonableness of noise barriers depends on a number of factors including the barrier cost per residence benefited. Costs exceeding about \$30,000 per residence benefited would not be considered reasonable.

Most receptors in the rural areas are single, isolated homes or businesses. In all these cases, the cost for constructing effective noise barriers is not reasonable and such construction is not recommended.

4.6.11.2 Construction Noise

To reduce the potential impact of construction noise, the Special Provisions for this project will require that motorized equipment shall be operated in compliance with all applicable local, state, and federal laws and regulations relating to noise levels permissible within and adjacent to the project construction site. As a minimum, the Special Provisions will require that motorized construction equipment shall not be operated between 10:00 p.m. and 6:00 a.m. without the prior written approval of the engineer. All motorized construction equipment will be required to have mufflers constructed in accordance with the equipment manufacturer's specifications or a system of equivalent noise reducing capacity, maintained in good operating condition.

4.6.12 Visual and Aesthetic Resources

Mitigation includes both measures to reduce adverse impacts and to enhance beneficial impacts. The following measures will improve the visual quality of the proposed project:

- A curvilinear alignment fitting the natural terrain reduces the adverse visual impact of the highway on the countryside. This principle has been incorporated into the alternatives to the extent possible, particularly in visually sensitive areas. Further refinements may include varying median widths and independent roadway profiles to blend with the terrain and take advantage of exceptional views from the highway.
- Landscaping and natural revegetation of disturbed areas reduce the visual intrusion of the highway on the natural landscape. Consideration will be given to use of native flora as an alternative to lawn grasses or in addition to seeding used for erosion control. In specific locations, landscaping may be designed to screen the view of the highway from particularly sensitive viewpoints.
- Modifying rock cuts to provide vegetated terraces and varying setbacks can soften the effects of massive rock cuts, provide visual interest, and preserve the rhythm of the natural landscape.
- Structures may be tinted or textured to be more harmonious with the natural environment. The use of a structure rather than a high fill to cross deep ravines is less visually intrusive.
- Depressing the profile in certain locations can reduce the visibility of the highway. This measure can be very costly in an area of rock excavation, but it could be considered where the highway impacts a particularly sensitive viewscape.

4.6.13 Borrow and Disposal

Selection of any material borrow sites will be the responsibility of the construction contractor subject to approval by WisDOT. It is anticipated that borrow material will be obtained locally from existing sites. Borrow will not be taken from areas of known archaeological sites. Unusable excavated material will be disposed of by the contractor in accordance with the Standard Specifications or Special Provisions to ensure protection of wetlands and waterways.

Consideration will be given during the design phase to the use of clean construction/demolition debris and/or recycled rubber tire materials to the extent feasible in project implementation.

All waste and demolition material from project construction activities which cannot be reused in the project will be disposed of in accordance with the Standard Specifications or Special Provisions, and the WisDOT/WDNR *One-Time Disposal Guidelines* to ensure protection of wetlands and waterways.

4.6.14 Enhancements

The Federal Highway Administration (FHWA) encourages the consideration of enhancement features on this project. Such enhancements are not mitigation measures related to adverse environmental impacts. Rather, these are additional measures intended to enhance modes beyond the highway and the car.

Federal funds for enhancements were made available through the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991. WisDOT has established the Statewide Multi-modal Improvement Program to fund enhancement projects and supports the incorporation of enhancements on this project.

WisDOT will investigate the potential for landscaping enhancements. In particular, projects to re-establish native plant communities or to incorporate native flora in roadside seeding will be considered. Other possibilities include additional native plantings (such as along the Jefferson Railroad Prairie and the Storr's Lake Wildlife Area), management of existing prairies, wetland buffering, and a floodplain lowland project along the Crawfish River. No other specific landscaping projects or other specific enhancement projects have been identified at this time.