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II. EXISTING CONDITIONS

Stoughton Road has an important impact on the overall liveability of the east side of Madison. WisDOT recognizes Stoughton Road's significance in the local and regional transportation system. The City of Madison and adjacent communities are directly impacted by traffic conditions on Stoughton Road. These communities have expressed concerns to WisDOT regarding the future impacts of continued growth on the roadway. The impact to the City of Monona is evident on Monona Drive, the City's main entrance. It is a major diversion route for traffic due to current conditions on Stoughton Road. Other neighboring communities - Stoughton, McFarland, Sun Prairie, DeForest, and Windsor - are dependent on the roadway as a regional route and need Stoughton Road to operate efficiently.

The intersection with East Washington Avenue has been the source of debate for several years. A study was completed in1994 by WisDOT and the City of Madison at the urging of the area neighborhood associations regarding what should be done at this intersection. Both parties, however, did not accept the study recommendations. East Washington Avenue continues to be an extremely congested intersection and was frequently raised by the public as an important improvement need.

A. CONSTRUCTION HISTORY

Stoughton Road, as USH 51, was originally referred to as the East Madison Beltline when it was expanded to a 4-lane roadway between USH 12/18 and STH 30 in 1968. The Cottage Grove Road interchange was constructed at that time. The STH 30 interchange was in place at that time, but was reconstructed in 1996. The Beltline interchange through the Broadway intersection was constructed in 1988. The overpass at Broadway was removed at that time. The road was expanded between Pierstorff Street and IH 39/90/94 to a four-lane roadway with a median in 1990. The area from the STH 30 interchange through the East Washington Avenue intersection was reconstructed from a four-lane to a six-lane roadway in 1992. The intersections with Lexington Avenue, Commercial Avenue, and Nakoosa Trail were reconstructed as part of that project. Also, the railroad crossing in that area was changed from a grade separation to an at-grade crossing at that time. The Milwaukee Street intersection was reconstructed to an interchange in 1996.

B. LAND USES

In the project area the land uses vary greatly between residential, commercial/business, and industrial (see Exhibit 5 Dane County Zoning). This area of Madison is very important to the City's economy. It is a healthy business sector and the only true area of industrial development left in the City.

Click here for EXHIBIT 5 DANE COUNTY ZONING PDF (337 KB)

Residential - Large residential areas are located west of Stoughton Road from north of Broadway to Anderson Street, with some commercial directly adjacent to Stoughton Road. The entire section east of the Stoughton Road has existing residential development and development plans to the Reiner Road/Sprecher Road/CTH AB roadways. Many schools and parks are located within the project study area on both sides of Stoughton Road.

Retail and Offices – Several retail centers are located on the frontage roads between Pflaum Road and Buckeye Road on both sides of Stoughton Road. Other commercial areas are located near the Cottage Grove Road interchange, Milwaukee Street interchange, and the Lexington Avenue/Commercial Avenue intersection. East Washington Avenue is lined with commercial development including the Stoughton Road intersection area. The East Towne Mall area is a major commercial development located at the East Washington Avenue interchange with IH 39/90/94. Office/Retail centers are located off of several areas of Stoughton Road. The most prominent are on both sides of Stoughton Road between Milwaukee Street and USH 30. Other major employment centers include:

- The World Dairy Agricultural Center is located of off Pflaum Road near the Interstate.
- There are also some businesses located off of Cottage Grove Road, Atlas Avenue, Kinsman Boulevard, and International Lane.
- The Madison Area Technical College is located west of the Anderson Street and Stoughton Road intersection.
- The Dane County Regional Airport is located just west of Stoughton Road, between Pierstorff Street and Hoepker Road.
- The American Family development is located east of IH 39/90/94 between USH 151 and Hoepker Road.

Manufacturing – Terminal Drive is the entrance to an industrial center that is on both sides of Stoughton Road. The area between Pflaum Road and Cottage Grove Road east of Stoughton Road has many industrial businesses. Industrial sites are also located east of Stoughton Road at Lexington Avenue, East Kinsman Boulevard, and near the Stoughton Road IH 39/90/94 interchange.

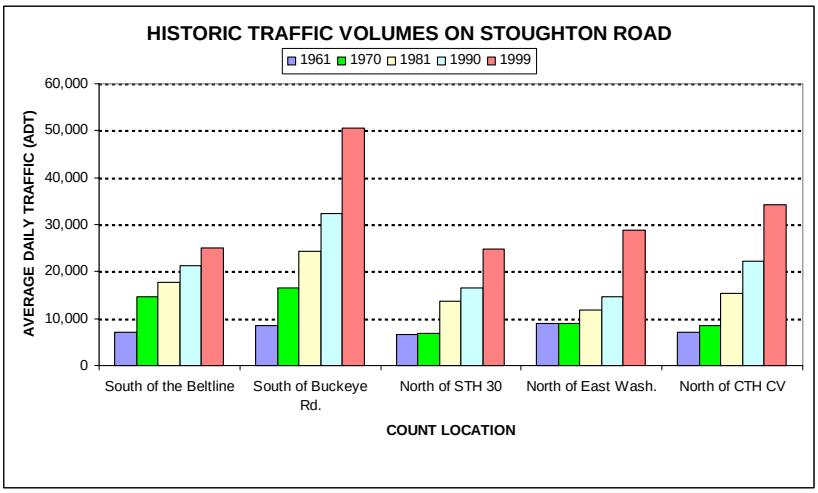
C. TRAFFIC ANALYSIS

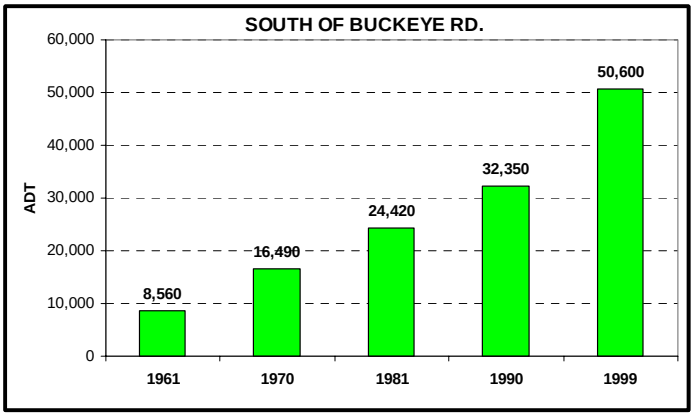
Recent and current daily traffic counts in the study area were obtained from the Wisconsin DOT and the City of Madison. These traffic counts were supplemented by intersection turning movement counts collected specifically for this study.

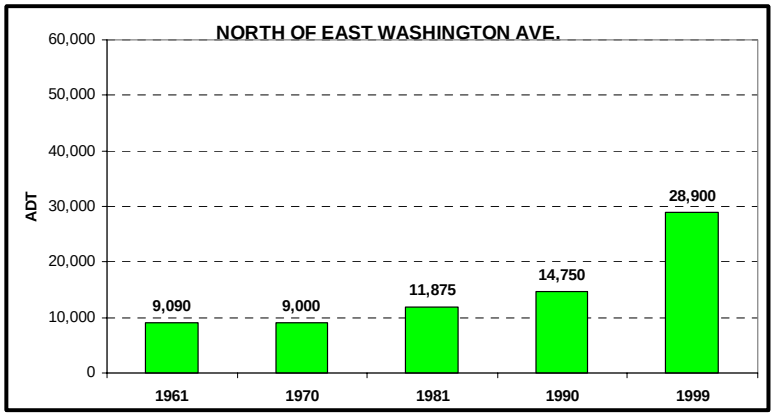
C.1 HISTORIC VOLUMES

The charts in Exhibit 6 below shows the significant increase in average daily traffic volumes (ADT) at five locations within the corridor in the past 40 years. The most notable increases have occurred in the past 20 years. Traffic volumes have doubled at almost all locations since 1981. The most significant numeric increase of the five areas since 1981 has been south of Buckeye Road, 26,180 vehicles per day. Commercial developments in the area and recent residential developments east of the interstate have contributed significantly to the increase. The greatest percentage increase in ADT (143%) was noted north of the East Washington Avenue intersection.

EXHIBIT 6 HISTORIC TRAFFIC VOLUMES







C.2 EXISTING TRAFFIC VOLUMES

The study area is broken into two sections for the traffic analysis.

Terminal Drive/Voges Road to Pierstorff Street - This six-mile segment of Stoughton Road is the more densely developed segment of the corridor. Through traffic on Stoughton Road encounters twelve signalized intersections, or about one signal every one-half mile, and two overpasses at Milwaukee Street and Cottage Grove Road.

Several major arterials and highway ramps intersect with Stoughton Road in this segment, forming high volume intersections with heavy turns. Four of these signals are located at highway interchanges – two each at STH 30 and USH 12/18. ADT flows vary between 21,000 vpd and 52,000 vpd. The highest corridor volumes occur between Broadway and USH 12/18.

The p.m. peak hour traffic flows in this southern segment are generally between 1,100 vph and 2,100 vph. Unlike the northern segment where the dominant travel pattern is “through trips”, the southern segment serves several travel patterns including “through trips”, interstate to local trips, local to interstate trips, and local to local trips.

Pierstorff Street to IH 39/90/94 - The northern four-mile segment has less dense land use development and is characterized mostly by unsignalized intersections. Stoughton Road traffic generally flows unimpeded along this segment, because there is only one signalized intersection at CTH CV to slow traffic. At the remaining intersections, only the side-street traffic is required to stop and wait for an acceptable gap in Stoughton Road traffic before turning onto

or crossing Stoughton Road. Average daily traffic (ADT) flows in this segment of the corridor are markedly higher north of CTH CV at about 27,000 vehicles per day (vpd), while between CTH CV and Pierstorff Street, ADT flows are about 17,000 vpd. The traffic count of 17,000 vpd is the lowest ADT within the Stoughton Road study corridor.

During the p.m. peak hour, northbound is the peak direction of flow along this segment of Stoughton Road. Most of the northbound traffic along Stoughton Road is "through traffic" originating from points south of Rieder Road destined to IH 39/90/94 or to points further north. Just north of Pierstorff Street, the northbound p.m. peak hour volumes along Stoughton Road are about 1,500 vehicles per hour (vph). About 15% of this traffic (roughly 250 vehicles) turns right onto Rieder Road, accessing residential neighborhoods to the east of Stoughton Road. The remaining "through volume" of about 1,300 vph continues north through the study corridor and accesses either IH 39/90/94 or continues north on USH 51. At the CTH CV intersection, about 400 vph turn left onto Stoughton Road northbound from CTH CV, resulting in a 1,700 vph volume in the short section between CTH CV and IH 39/90/94.

In the southbound direction, traffic volumes are generally about 600 vph during the p.m. peak hour. The southbound direction represents the off-peak travel direction in this segment of the corridor.

C.3 EXISTING TRAVEL SPEEDS

Terminal Drive/Voges Road to Pierstorff Street - During the p.m. peak hour, this southern segment of Stoughton Road is characterized by average travel speeds of about 27 mph in each direction. This average speed accounts for the travel times between intersections and for the delays encountered at signalized intersections throughout the corridor. Travel time is estimated at 13 minutes for this six-mile southern segment of the corridor.

TABLE 1 – STOUGHTON ROAD EXISTING TRAFFIC SUMMARY

Characteristic	**Southern Segment** Terminal Dr./Voges to Pierstorff Street	**Northern Segment** Pierstorff Street to IH 39/90/94	**Entire Study Corridor** Terminal Dr./Voges to IH 39/90/94
Year 2002 Average Daily Traffic (vehicles per day)	Between 21,000 – 52,000	Between 17,000 – 27,000	Between 17,000 – 52,000
Year 2002 Average Travel Speed (mph) p.m. peak hour	27	46	32
Year 2002 Average Travel Time (minutes) p.m. peak hour	13	5	18

Pierstorff Street to IH 39/90/94 - During the p.m. peak hour, this northern segment of Stoughton Road is characterized by average travel speeds between 46 mph and 51 mph. Travel time between IH 39/90/94 and Pierstorff Street is generally four to five minutes during the p.m. peak hour. Side-street traffic turning left or right onto Stoughton Road is delayed between 15 seconds and 90 seconds while waiting for an acceptable gap in the Stoughton Road traffic flow.

D. ENVIRONMENTAL RESOURCES

D.1 HAZARDOUS MATERIALS

As part of the Stoughton Road Corridor Study, a preliminary Phase 1 screening assessment was conducted to identify sites that could warrant further investigation during a future engineering phase.

The screening assessment consisted of a review of federal and state records, local information, as well as a visual survey of properties along the project corridor. The records review includes the USEPA Internet database, DNR Leaking Underground Storage Tank (LUST) lists, Wisconsin Department of Commerce Underground Storage Tank (UST) lists, and DNR Spill lists, as well as other sources such as topographic, soil, and plat maps together with regional geologic and hydrogeologic data. A summary of the screening assessment, which identifies potential hazardous materials concerns along the project corridor is presented in the table below and associated map, in Exhibit 7.

HAZARDOUS MATERIALS ASSESSMENT SCREENING SUMMARY

Project Section	Potential Hazardous Materials Concern(s) and Location
Terminal Dr. to Cottage Grove Rd.	1 – Bulk Petroleum Storage ASTs; (Identified by #36 on Haz Mat Map) 2 – LUST; (Identified by #33 on Haz Mat Map) 3 – LUST; (Identified by #30 on Haz Mat Map) 4 – Multiple (LUST, Spills, ERP); (Identified by #28 on Haz Mat Map) 5 – LUST, (Identified by #27 on Haz Mat Map) 6 – LUST, AST; (Identified by #25 on Haz Mat Map)
Cottage Grove Rd. to E. Washington Ave.	7 – LUST; (Identified by #19 on Haz Mat Map)
E. Washington Ave. to IH 90	8 – LUST; (Identified by #11 on Haz Mat Map) 9 – LUST; (Identified by #9 on Haz Mat Map) 10 – LUST; (Identified by #5 on Haz Mat Map) 11 – LUST; (Identified by #1 on Haz Mat Map)

Potentially contaminated soil and contaminated localized groundwater adjacent to Stoughton Road is an important environmental factor in the study of potential alternatives for improvement of the Stoughton Road corridor. It is WisDOT's policy to avoid acquiring potentially contaminated properties to the extent practical. Where such properties cannot be avoided for the selected improvement alternative, public and private funds are required for additional investigations and if needed, remediation.

Click here for EXHIBIT 7 HAZARDOUS MATERIALS SITES PDF (2.2 MB)

D.2 Wetlands

According to the interagency *Federal Manual for Identifying and Delineating Jurisdictional Wetlands* (1989), wetlands are defined as those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

Wetlands perform several important biological functions. These include sediment retention and nutrient removal, water quality protection, wildlife habitat for common as well as threatened, endangered, and special concern species, linear wildlife movement corridors, and ecosystem biodiversity. Wetlands also provide shoreline protection, flood/storm water attenuation, groundwater recharge, and discharge. A particular wetland may provide one or more of these functions depending on factors such as landscape position, plant community composition, and hydrologic regime.

This preliminary identification of wetlands along the Stoughton Road corridor was developed from a reconnaissance of the project corridor and review of applicable wetland inventory maps and aerial photographs. These wetland areas are identified on the map presented in Exhibit 8. The identified wetlands are summarized as follows:

- A wetland complex associated with Lake Waubesa and Upper Mud Lake is located near the south end of the project corridor. This complex extends to areas in the northeast and northwest quadrants of the Stoughton Road/USH 12 intersection.
- Areas of isolated wetland exist at the northeast and southwest quadrants of the Stoughton Road/Cottage Grove Road corridor.
- Identified wetlands exist east of Stoughton Road in the area where Stoughton Road passes Dane County Regional – Truax Field. Much of the wetland west of Stoughton Road in this area was previously converted during expansion of the airport; however, isolated wetland areas exist along the west side of Stoughton Road.
- Wetlands associated with the larger Token Creek/Yahara River complex exist at the north end of the project corridor, at the Stoughton Road/IH 39/90/94 interchange.
- Several areas of isolated wetlands exist in drainage swales at various areas along the project corridor.

D.3 ARCHAEOLOGICAL

<u>The Project Corridor</u> – The project corridor lays 3/4 mile or more east of the large Madison lakes. It also crosses Starkweather Creek, which is channelized. There are also various small, intermittent drainages in, or near the corridor. More significantly, the corridor runs through or near, various marshes, some of which were large bodies prior to development. Archaeological sites are often clustered on higher elevations above such features.

<u>Methods</u> – The following data sources were utilized to identify previously reported cultural resources in the project corridor:

Click here for EXHIBIT 8 WETLAND MAP PDF (400 KB)

Site files and archives of the Wisconsin Historic Preservation Division
Office of the State Archaeologist
Burial Sites Preservation Office
Archaeological Consulting and Services, Inc.
Prehistoric Cultural Resources of Dane County, Wisconsin (Salkin 1983)
National Register of Historic Places
Charles E. Brown Atlas
Charles E. Brown Manuscripts
Wisconsin Archeologist
County Histories

Sites were then plotted on U.S.G.S. maps to access their relationship to the project corridor.

Archaeological Resources – The literature and records search indicated that the following sites are those in, or very near the project corridor:

47Da276 – Pflaum Mound – located to 40 acres – near, but probably just east of the existing corridor

47Da277 – Morningside Heights Mound Group – reported as a conical mound – may be near the project corridor but little information available and the provenience is only to 160 acres

47Da32 – Phlaum-McWillians Mound Group – originally a group of 11 mounds of which 7 survive, are catalogued and on the NRHP – surviving mounds are about 100 – 200 feet west of the existing highway corridor – mounds may have been located in the corridor at one time

47BDA-0019 – Euro-American cemetery – former cemetery located in the southwestern corner of Sec. 16 – some burials transferred to Burke Lutheran Cemetery in Sec. 15 and no markers are left – some burials may still be present in or near the project corridor

There were 18 additional sites reported as out of the immediate area of Stoughton Road, but within ¾ to 1 mile of the roadway.

Thus, it is obvious that the general project area as a whole has the potential for the presence of Native American archaeological resources. However, only a few sites were reported as potentially in, or near the project corridor. It is unlikely that any of these sites that were in the existing corridor have survived. It should be noted that this report documents only previously reported sites. Other sites, not yet discovered may be in, or near the project corridor. As noted, the northern end of the project corridor may have some potential for the presence of archaeological resources.

D.4 ARCHITECTURAL HISTORY

A literature and records search was completed for buildings immediately adjacent to Stoughton Road for the entire length of the corridor. The literature and records search indicated that there are no structures on the National Register of Historic Places or in the Wisconsin Historic Buildings Inventory. One structure was located along the corridor, but it was located on the ground of the Dane County Regional Airport and was removed as a part of an improvement project. It may be noted that while no structures, potentially eligible for the National Register of Historic Places, are likely to be impacted by this project, this may not be true if substantial improvements are done to intersections, which were not evaluated as part of this Needs Assessment.