4. CONTEXT ZONE APPROACH AND POTENTIAL IMPROVEMENTS SCENARIOS

Context Sensitive Solutions (CSS) Approach

The Study’s potential improvement Scenarios are based on the use of a Context Sensitive Solutions (CSS) approach and CSS principles to guide potential land use and multi-modal transportation changes improvements intended to enable the safe and effective movement of people and goods, and support local growth and economic development in the Study Area. The approach is based on existing and emerging MnDOT CSS Policies and Programs, Access Management and Road Design guidelines and standards; the latest AASHTO Green Book (2010); The Design of Walkable Urban Thoroughfares, An ITE Recommended Practice 2010; the New Jersey - PennDOT Smart Transportation Guidebook (2008); and Goodhue county and local (city of Zumbrota and adjacent townships) land use, access management, and roadway policies, standards, and guidelines.

The timeline for potential improvements is based on three ranges of years:

- **short-term (within 5 years);** this includes the upcoming/2013 MN 58 Mill and Overlay
- **medium term (5 to 10 years);** this includes the replacement of MN 58 BR 9661 over US 52, tentatively identified as a candidate bridge for replacement around 2017/2018
- **long term (10-20 years);** recommended potential improvements have been identified in the Study Scenarios, also see the Implementation section

CSS Principles

The principles of CSS promote a collaborative, multidisciplinary process that involves all stakeholders in planning and designing transportation facilities that a) meet the needs of users and stakeholders; b) are compatible with their setting and preserve scenic, aesthetic, historic and environmental resources; c) respect design objectives for safety, efficiency, multimodal mobility, capacity and maintenance; and d) integrate community objectives and values relating to compatibility, livability, sense of place, urban design, cost and environmental impacts.

<table>
<thead>
<tr>
<th>CSS Principles (paraphrased 1998 principles referenced in SAFETEA-LU)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use interdisciplinary teams</td>
</tr>
<tr>
<td>Involve your stakeholders</td>
</tr>
<tr>
<td>Seek broad-based public involvement</td>
</tr>
<tr>
<td>Use a full range of communication strategies</td>
</tr>
<tr>
<td>Track and meet all commitments</td>
</tr>
</tbody>
</table>

From MnDOT/CTS website

Applying the principles of CSS in the Study has included identifying state, county, and local objectives, issues and opportunities.
CSS Approach and Thoroughfare Design

The CSS approach and thoroughfare/corridor scenarios in this Study are built from a shared understanding of the Study Area’s existing and future urban contexts and the ways to use the design of the thoroughfare itself to provide mutual support between the thoroughfare and existing and planned adjacent land uses and development patterns. Key information that informed this approach and its preliminary comments and recommendations include:

- Planned land use and transportation in the Study Area and corridor (state, county, and local land use and transportation plans and documents including zoning ordinances and maps)
- Projected growth in the Study Area and travel demand forecasts/traffic generation estimates
- Goals and policies that provide direction for the planning and development of land use and transportation projects
- Multimodal role of the thoroughfare segments as a local road, future county road, and state highway, including the community’s “Main Street”
- State highway and multimodal performance of the networks and corridor
- Performance measures and criteria used to evaluate transportation projects

The Study includes the development and evaluation of 180th Ave South and MN 58 thoroughfare/corridor scenarios that incorporate appropriate thoroughfare design characteristics compatible with the context. The typical section concepts and Study scenarios are intended to guide state, county, and local project development processes and projects as they are scoped and developed now and in the future.

The thoroughfare design elements are consistent with existing and emerging MnDOT and AASHTO standards and guidelines. However, project development and implementation in the short-term, based on the Study’s recommended design elements, may require design exceptions and/or variances at the State, County/County State Aid, and local levels. Some of MnDOT’s current 13 critical controlling highway design values may require design exceptions.

The Study Area Corridor, its Context Zones and Thoroughfare Types

Context zones describe the physical form, function and character of a place, including the mass or intensity of development along a thoroughfare. Context zones are applied at the community level, but for the purposes of thoroughfare design are interpreted on a block-by-block basis to respond to specific physical and activity characteristics.

Land use context and roadway type together comprise the organizing framework for the selection of roadway design values. A context zone is a land area that contains a unique combination of built and natural characteristics made up of different land uses, architectural types, urban form, building density, roadways, and topography and other natural features.

The CSS approach differs from “conventional” approaches in that it creates a finer grain of classification in which design values may change. Design criteria used in the ITE Recommended Practice, and New Jersey-PennDOT Smart Transportation Guidebook, contain context zones and roadway typologies that divide land uses into residential and commercial categories which further influence selection of design criteria. See below.
The New Jersey - PennDOT Smart Transportation Guidebook (2008) contains a set of context zones and roadway typologies similar to that of the ITE Recommended Practice. These are intended to better capture the role of the roadway within the community, especially focusing on access, mobility and speed characteristics. The NJ-PennDOT Guidebook contains “Suburban” context zones (see Figure 4.3 below) appropriate to the MN 58 Study area, and is used (with the ITE Recommended Practice) to help guide the definition and selection of context and road design values in north and south zones in the Study Area.
The CSS approach and Thoroughfare Design:

Conventional thoroughfare design processes emphasize vehicular mobility and automobile access to adjoining land uses, primarily using motor-vehicle functional classification, traffic volume, design speed, automobile travel demand and level of service criteria as the determinants for design parameters. CSS expands the design process to better integrate thoroughfares with their surroundings, with urban thoroughfares that emphasize multimodal safety, access and mobility, as well as support for the activities of the adjacent land uses. Walkability is a key focus of this approach.

Using CSS, conventional criteria are still important, but are balanced with other context-related criteria including community objectives, the thoroughfare type and the type and intensity of the adjacent land uses. ITE Tables 4.2 and 4.4 below (from the ITE Walkable Urban Thoroughfares Recommended Practice), and New Jersey - PennDOT Smart Transportation Guidebook (2008) provide some general characteristics of urban thoroughfares that were used in the overall planning of networks and some aspects of designing context sensitive appropriate typical sections and Study scenarios. Note that states in the U.S. using a CSS approach continue to keep the underlying traditional motor-vehicle functional classification.

Thoroughfare planning and engineering requires evaluating capacity, connectivity and safety considerations in combination with meeting local objectives for urban character. The selection of appropriate design controls and performance measures is a key step in developing suitable design solutions.

The Role of Capacity and Vehicular Level of Service: “Conventional” design processes use motor-vehicle traffic projections for a 20-year design period and strive to provide the highest practical vehicular level of service. CSS takes multimodal traffic projections and levels of service into account and balances the needs of all users or emphasizes one user over another depending on the context and circumstances. Motor-vehicular capacity and level of service play a role in selecting design criteria; they are only two of many factors the practitioner considers and prioritizes in urban thoroughfare design. CSS also considers network capacity in determining the necessary capacity of the individual thoroughfare.
In urban areas, CSS guidance states that thoroughfare capacity can often be a lower priority than other factors; higher levels of congestion may be acceptable. Many urban intersections today operate at Levels of Service E or F. On some urban projects it is considered a success to achieve an F’ (V/C ratio 1.5 to 1.0).

Especially for Highways as Main Streets (such as MN 58 in Zumbrota), if the state highway is not “critical” to regional movements, CSS guidance says that both the state and the community should consider whether a Level of Service ‘E’ or ‘F’ at intersections is acceptable. This involves a balancing between vehicular levels of service and “local service” i.e. encouraging walking and making the business district a greater destination, including by slowing traffic on the roadway. The priority of levels of service is a both a state and community objective; however, variance from state performance measures may need concurrence from MnDOT.

Table 4.2 below shows specific ITE thoroughfare types that are commonly used in the United States and most appropriate to this Study, and gives a general description of the “thoroughfare type.”

<table>
<thead>
<tr>
<th>Thoroughfare Type</th>
<th>Functional Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boulevard (see Chapters 8, 9 and 10 for design guidance)</td>
<td>Walkable, low-speed (35 mph or less) divided arterial thoroughfare in urban environments designed to carry both through and local traffic, pedestrians and bicyclists. Boulevards may be long corridors, typically four lanes but sometimes wider, serve longer trips and provide pedestrian access to land. Boulevards may be high-ridership transit corridors. Boulevards are primary goods movement and emergency response routes and use vehicular and pedestrian access management techniques. Curb parking is encouraged on boulevards.</td>
</tr>
<tr>
<td>Multiway boulevards are a variation of the boulevard characterized by a central roadway for through traffic and parallel access lanes accessing abutting property, parking and pedestrian and bicycle facilities. Parallel access lanes are separated from the through lanes by curbed islands with landscaping; these islands may provide transit stops and pedestrian facilities. Multiway boulevards often require significant right of way.</td>
<td></td>
</tr>
<tr>
<td>Avenue (see Chapters 8, 9 and 10 for design guidance)</td>
<td>Walkable, low-to-medium speed (25 to 35 mph) urban arterial or collector thoroughfare, generally shorter in length than boulevards, serving access to abutting land. Avenues serve as primary pedestrian and bicycle routes and may serve local transit routes. Avenues do not exceed 4 lanes, access and land to primary function. Goods movement is typically limited to local routes and deliveries. Some avenues feature a raised landscaped median. Avenues may serve commercial or mixed-use sectors and usually provide curb parking.</td>
</tr>
</tbody>
</table>
The predominant thoroughfare type appropriate to MN 58 in the Study corridor is the “Avenue”. Avenues, the “workhorses” of urban areas, serve many types of areas and have many different functions. Some general characteristics of avenues are that they do not exceed four lanes, are usually undivided, can be narrower and provide access to adjacent land uses (they could have a landscaped median). They are more “local” serving than the “higher-type” ITE boulevard thoroughfare, and also emphasize economic development and pedestrian space.

In a similar manner, the (from New Jersey - PennDOT Guidebook defines roadway classes/thoroughfare types, as shown in Table 5.1 below. These roadway classes also correspond to the classifications of arterial, collector and local as described in the 2001 AASHTO Green Book.

<table>
<thead>
<tr>
<th>Roadway Class</th>
<th>Roadway Type</th>
<th>Desired Operating Speed (mph)</th>
<th>Average Trip Length (mi)</th>
<th>Volume</th>
<th>Intersection Spacing (ft)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arterial</td>
<td>Regional</td>
<td>30-55</td>
<td>15-35</td>
<td>10,000-40,000</td>
<td>660-1,320</td>
<td>Roadways in this category would be considered “Principal Arterial” in traditional functional classification.</td>
</tr>
<tr>
<td>Arterial</td>
<td>Community</td>
<td>25-55</td>
<td>7-25</td>
<td>5,000-25,000</td>
<td>300-1,320</td>
<td>Often classified as “Minor Arterial” in traditional classification but may include road segments classified as “Principal Arterial.”</td>
</tr>
<tr>
<td>Collector</td>
<td>Community</td>
<td>25-55</td>
<td>5-10</td>
<td>5,000-15,000</td>
<td>300-660</td>
<td>Often similar in appearance to a community arterial. Typically classified as “Major Collector.”</td>
</tr>
<tr>
<td>Collector</td>
<td>Neighborhood</td>
<td>25-35</td>
<td>&lt;7</td>
<td>&lt;6,000</td>
<td>300-660</td>
<td>Similar in appearance to local roadways. Typically classified as “Minor Collector.”</td>
</tr>
</tbody>
</table>

The Highway as “Main Street”: A “specialized type” of thoroughfare, this is an important concept shared by both the ITE Recommended Practice and the New Jersey-PennDOT Guidebook, with the goal of encouraging safe, active, economically vibrant town centers small and large with an appropriate balance of speed, access, and mobility.

MN 58 in Zumbrota, especially downtown, is the city’s “Main Street”. Main streets may typically be in any context zone but are most commonly found in ITE-category suburban (C-3), general urban (C-4) and urban center (C-5) contexts. They are usually short, walkable segments of arterial or collector streets. They are within a grid or interconnected system of local streets serving the commercial center of town with short blocks, buildings, and sometimes minimal or no driveways. Land uses on main streets consist of compact, mixed use development, often with retail etc on ground floors and residential/services above.

By design, main streets are pedestrian friendly, and include wide streetsides/sidewalks that support active uses such as street cafes, strolling, and window shopping. Public parking often consists of on-street parking. Parking lots or garages are located behind or to the side of buildings. Main streets typically are no wider than two travel lanes with on-street parking and may contain bicycle lanes. Transit consists of local or regional service.

A number of factors are balanced to create an appropriate Main Street environment. This process requires balancing traffic throughput with economic development and other goals. At least three important factors are considered: speed, width and parking. Because of the pedestrian-oriented nature of main streets, the desired target speed is low (25–30 miles per hour) in main street segments, even on
Minor Arterials like MN 58. CSS guidance is that main streets are two lanes wide with parallel parking on both sides, resulting in a traveled way width of 36 to 38 feet, or 44 to 48 feet on streets with bicycle lanes. Increasing the number of travel lanes to three or four may be considered appropriate based on community objectives, the main street’s role in the modal networks, and the existence or lack of parallel thoroughfares. On-street parking is an important design element, providing short-term parking, buffering pedestrians from traffic, creating friction that slows traffic and producing a higher level of street activity.

**Thoroughfare Design Parameters, Walkable and Vehicle-oriented Thoroughfares**

The ITE Recommended Practice guidance focuses on the design of urban thoroughfares in walkable contexts. However, the fundamental design criteria and the flexibility inherent in the interpretation and application of the criteria is applicable to all types of thoroughfares in all types of contexts; most of the guidance is applicable to thoroughfares in contexts where vehicle travel may be a priority. Study Partners used the CSS guides in identifying the typical sections with the most relevant and applicable considerations and guidance. Table 6.2 below presents some common characteristics that should be provided for walkable thoroughfares and contrasts these with conventional vehicle-oriented thoroughfare characteristics.

For walkable urban thoroughfares, the combination of thoroughfare type, functional classification, and context zone is used to help select appropriate design parameters. The CSS guidance used provides design parameters and dimensions for thoroughfares under the Study’s contexts. The design parameters are divided into predominantly commercial and residential categories, and provide guidance for four aspects of the thoroughfare, 1) the Context (adjacent land uses), 2) Streetside area, 3) Traveled way, and 4) Intersections. Also, thoroughfare type is used to determine target (operating) speed, and site distance.
Table 6.2 Selected Characteristics of Walkable Thoroughfares

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Walkable Thoroughfares</th>
<th>Vehicle-Oriented Thoroughfares</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target speed range</td>
<td>From Table 6.4</td>
<td>25–35 mph.</td>
</tr>
<tr>
<td>Pedestrian separation from moving traffic</td>
<td>Curb parking and streetside furnishing zone.</td>
<td>Optional, typically separation achieved with planting strip.</td>
</tr>
<tr>
<td>Streetside width</td>
<td>Minimum 9 feet (residential) and 12 feet (commercial) to accommodate sidewalk, landscaping and street furniture.</td>
<td>Minimum 5 feet.</td>
</tr>
<tr>
<td>Block lengths</td>
<td>200–600 feet.</td>
<td>Up to one-quarter mile.</td>
</tr>
<tr>
<td>Protected pedestrian crossing frequency (pedestrian signals or high-visibility markings at unsignalized crossings)</td>
<td>200–600 feet.</td>
<td>As needed to accommodate pedestrian demands.</td>
</tr>
<tr>
<td>Pedestrian priority at signalized intersection</td>
<td>Pedestrian signals and pedestrian countdown signs, adequate crossing times, shorter cycle lengths and median refuges for very long crossings.</td>
<td>Vehicle priority; may have longer cycle lengths and require two cycles for slower pedestrians to cross wide streets with medians.</td>
</tr>
<tr>
<td>Pedestrian crossings</td>
<td>High-visibility crosswalks shortened by curb extensions where there is on-street parking.</td>
<td>Full street width.</td>
</tr>
<tr>
<td>Median width</td>
<td>6 feet minimum at crosswalk; if used as pedestrian refuge, plus 10 feet for left-turn lane, if provided. 14 foot total width for left-turn lane if no refuge needed.</td>
<td>14–18 feet for single left-turn lane; 26–30 feet for double left-turn lane.</td>
</tr>
<tr>
<td>Vehicular access across sidewalks</td>
<td>24 feet or less, except if specific frequent design vehicle requires added width.</td>
<td>As needed.</td>
</tr>
<tr>
<td>Curb parking</td>
<td>Normal condition except at bus stops and pedestrian crossings.</td>
<td>None.</td>
</tr>
<tr>
<td>Curb return radius</td>
<td>10–30 feet; low-speed channelized right turns where other options are unworkable.</td>
<td>30–75 feet; high-volume turns channelized.</td>
</tr>
</tbody>
</table>

Table 6.4 Design Parameters for Walkable Urban Thoroughfares, Table 6.5 Main Street Design Parameters, and other tables and matrices from the ITE Recommended Practice, and the New Jersey - PennDOT Smart Transportation Guidebook contain recommended design parameters and typical sections. Other information, including additional criteria and discussion on how and when to use the various design elements is also included (see the appendix). This information, along with MnDOT, County/County State Aid, and local guidance and standards, was used to develop the Study’s recommended design values, typical sections, and scenarios.

The design, maintenance, and operation of MN 58 is largely controlled by MnDOT, and is subject to the state’s policies and design standards. MnDOT recognizes the value the community places on its Main Street and may be amenable to applying flexibility in the application of current standards using the “design exception” process. However, some desired design parameters may not be acceptable currently to MnDOT or the community, this may change in the future. MnDOT has worked collaboratively with the Study Partners to find solutions that best meet all the partner’s needs and constraints. The thoroughfare design values recommended in the Study’s context zone tables are intended to guide potential future improvements; they are not meant to be, or replace, state, county or local design standards and guidelines. A range is used for some parameters and values to reflect the current and emerging values that Study guidance and recommendations are based on.
Study Context Zones, Corridor Characteristics, and Thoroughfare Types

MnDOT District 6 and the Study’s partners have defined four context zones with an associated thoroughfare type for each zone (see map below). The ITE Recommended Practice, NJ/PennDOT Guidebook, MnDOT Road Design Manual (and others), County/County State Aid, and local road design values were used to help define the thoroughfare types, conceptual typical sections and scenarios.
180th Avenue, MN 58: Zones, and Corridor Characteristics
In 2012 (and plans for the near future)

Zumbro River to CSAH 6

- Planned Land Use:
  - Parks, Residential, Park and Ride
  - Traffic Speed (2012 data):
    - 36 to 40 mph ave (40 posted)
  - Traffic Volume:
    - 2013: 7300; 400 (5.5%) hcad/t
    - 2033 Estimate: 8800; 530 (6%) hcad/t

Downtown

- Planned Land Use:
  - Commercial, Industrial, Agricultural
  - Traffic Speed 2012 data:
    - 31 mph ave (30 posted)
  - Traffic Volume:
    - 2013: 7300; 400 (5.5%) hcad/t
    - 2033 Estimate: 8800; 530 (6%) hcad/t

5th St to 14th St

- Planned Land Use:
  - Residential, Commercial
  - Traffic Speed 2012 data:
    - 32-33 mph ave (30 posted)
  - Traffic Volume:
    - 2013: 9500N/10250S; hcadt unknown
    - 2033 Estimate: 11850N/13850S; ~545 (~4.4%) hcad/t

14th St to MN 52 Bridge

- Planned Land Use:
  - Residential, Highway Commercial
  - Traffic Speed 2012 data:
    - None (30 mph posted)
  - Traffic Volume:
    - 2013: 3050N/1650S; hcadt unknown
    - 2033 Estimate: 9680; hcadt TBD

MN 52 Bridge to 180th Ave/22nd St (city streets)

- Planned Land Use:
  - Highway Commercial, Industrial, Mixed Density Residential
  - Traffic Speed 2012 data:
    - None (30 mph posted)
  - Traffic Volume:
    - 2013: 3050N/1650S; hcadt unknown
    - 2033 Estimate: 9680; hcadt TBD

Note: all text and images are for discussion purposes only.

- Minnesota Department of Transportation
- Planned Turn Lanes (overlay project~2013)
**KEY CORRIDOR CHARACTERISTICS: MN 58 Zumbrota Subarea Study**

**MN 58, and 180th St, in Zumbrota**

<table>
<thead>
<tr>
<th>Segment</th>
<th>Zone &amp; Thoroughfare Type</th>
<th>Yr 2013 Volume (mvi)</th>
<th>Yr 2033 Volume (mvi/ft/60)</th>
<th>Safety</th>
<th>Target Crash Sev' Rates</th>
<th>Speed existing p/operating</th>
<th>Target Future Speed</th>
<th>Operations and Maintenance</th>
<th>Ped, Bike</th>
<th>Ped, Bike future options</th>
<th>Traffic Control, Speed Mgmt</th>
<th>*Traffic Control, Speed Mgmt future options</th>
</tr>
</thead>
<tbody>
<tr>
<td>443rd St to CSAH 6</td>
<td>Suburban N’hood, Hybrid, Avenue-Community Arterial</td>
<td>3350 3800 hc (9.5%)</td>
<td>4700 460 hc 9.8%</td>
<td>2.3 C 3.4 S</td>
<td>0 C 0 S</td>
<td>40.55 p &amp; o</td>
<td>45-55 p &amp; o</td>
<td>2 Thru 2 Sh Rural</td>
<td>2 Thru 2 Sh</td>
<td>2 Thru 2 Sh</td>
<td>Sign</td>
<td>Sign</td>
</tr>
<tr>
<td>CSAH 6 to Zumbro R BR</td>
<td>Urban Core-Comm Main St line, Ave-Main St Hwy</td>
<td>7300 400 hc (5.5%)</td>
<td>8800 530 hc 6%</td>
<td>2.3 C 3.4 S</td>
<td>0 C 0 S</td>
<td>40 p 36-40 o</td>
<td>30-35 p &amp; o</td>
<td>2 Thru 2 Park Urban</td>
<td>2 Thru 2 Park 2 Sw</td>
<td>2thru-3 2-0 Park 2 Bl 2 Sw 1-2 Paths</td>
<td>Sign</td>
<td>Sign</td>
</tr>
<tr>
<td>Zumbro R BR to 5th St</td>
<td>Urban Res-Comm Main St line, Ave-Main St Hwy</td>
<td>7300 400 hc (5.5%)</td>
<td>8800 530 hc 6%</td>
<td>2.3 C 3.4 S</td>
<td>0 C 0 S</td>
<td>30 p 31 o</td>
<td>30 (25)** p &amp; o</td>
<td>2+ Thru 2 Park Urban - curb only</td>
<td>2+thru-3+ 2 Park</td>
<td>2+ Thru 2 Park 2 Sw</td>
<td>Sign incl 2 in-St Ped, Ped 3 Flash Xing, Stripe</td>
<td>Sign incl 2 in-St Ped, 1 Ped Act’l Flash Xing, Stripe</td>
</tr>
<tr>
<td>5th St to 14th St</td>
<td>Urban Res-Comm Main St line, Ave-Main St Hwy</td>
<td>9500N 10250S 400 hc</td>
<td>1850N 1850S 13850 1400 540 hc 550 hc 4.4%</td>
<td>2.3 C 3.4 S</td>
<td>0 C 0 S</td>
<td>30 p 32-33 o</td>
<td>30 (25)** p &amp; o</td>
<td>2 Thru 2 Park Urban</td>
<td>2 Thru 2 Park 1+ 2 Sw</td>
<td>2thru-3 2 Park 1+0 Park 1+ 2 Sw</td>
<td>Sign incl School Xing, Stripe</td>
<td>Sign incl School Xing, Stripe</td>
</tr>
<tr>
<td>14th St to 52nd St</td>
<td>Suburban Corridor, Community Collector</td>
<td>10250 400 hc (5.5%)</td>
<td>13850 550 hc 4%</td>
<td>2.3 C 3.4 S</td>
<td>0 C 0 S</td>
<td>30 p 32-33 o</td>
<td>30 p &amp; o</td>
<td>2 Thru 2 Sh/Park Urban</td>
<td>2 Thru 2 Sh/Park 1 Sw</td>
<td>2thru-2 Sh/Park 0 Sh/Park 1 Sh/Park 1 Sw</td>
<td>Sign</td>
<td>Sign</td>
</tr>
<tr>
<td>52nd St to 22nd St</td>
<td>Suburban Collector</td>
<td>1650-3050 7 hc</td>
<td>960-3550 7 hc</td>
<td>2.3 C 3.4 S</td>
<td>0 C 0 S</td>
<td>30 p 7 o</td>
<td>30 p &amp; o</td>
<td>2 Thru 2 Sh/Park Rural</td>
<td>2 Thru 2 Sh/Park 0 Sh/Park 0 Sh/Park</td>
<td>2 Thru 2 Sh/Park 1 Path 1 Sw</td>
<td>Sign</td>
<td>Sign</td>
</tr>
</tbody>
</table>

Future: short term = 3 yrs, med = 6-10 yrs, long = 11-20 yrs.

*Future potential traffic control, speed management optional items tbd based on future TIR and speed data: signals, roundabout, median, ped refuge island, curb extension, lateral shift, striping, etc. **25 mph future target p & o speeds in med-long term to reduce pedestrian crash risk (or when State Statutes change to allow 25 mph posted speed).*

**Existing Operating Speed Based on speed data collected Dec 2011 and Apr 2012**

BL = bike lane, hc = heavy commercial/truck traffic, LTL = left-turn lane, mv = motor vehicle, Park = parking, Path = ped/bike path, R'bt = roundabout, Sh = shoulder, Sw = sidewalk

**Crash Sev’ Rates:** District and statewide averages, are 1-4-2-1 crash, 2-1-3-0 severity.

Traffic Impact Reports (TIRs) will be needed to determine if any intersections may meet traffic signal warrants, and signals potentially needed in future. Preliminary analysis assumes that 180th/22nd, S/Jefferson Dr, S/6th St side street eastbound LOS may be unacceptable for the year 2033 if no improvements made beyond existing.

Maintenance: Snow removal of thru and parking lanes done by MnDOT except for downtown where City removes all. Sidewalks maintained by City throughout corridor. 1330008

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**MN 58 Zumbrota Subarea Study**

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6/1/13rev
CSS in Multimodal Networks, Planned and Recommended

Challenges in creating walkable urban thoroughfares can sometimes be addressed at the network or the corridor scale. The Study recognizes the role of a thoroughfare as part of a large-scale, multimodal network, consider the regional, community, and local/neighborhood functions of MN 58, and 180th Avenue South. Recommended thoroughfare designs are linked to its context and multimodal network performance, including modal emphasis. Modal connectivity, parallel routes and corridor capacity informs the recommended transportation systems planned to accommodate projected demand. Routing of autos, transit, freight and pedestrians and bicyclists across the parallel roadway systems is part of the Study.

The upcoming/2013 MN 58 Mill and Overlay paving project (MnDOT SP 2510-47) will rehabilitate the bituminous pavement, marks some turn lanes and continuous left turn lanes downtown, upgrade sidewalk curb ramps to meet ADA requirements, and repair some storm sewer in the Study area. Study activities are being coordinated with the paving project. Opportunities to incorporate Study recommendations into the paving project are being pursued and will be included as appropriate.

Study Area CSS Approach and Corridor Principals

The CSS approach expands the design process to better integrate thoroughfares with their surroundings, with urban thoroughfares that emphasize multimodal safety, access and mobility, as well as support for the activities of the adjacent land uses in the Study corridor. This graphic illustrates some of the Study corridor’s CSS-based planning and design principles.

At each end of the Study corridor, “gateways” should be developed to indicate to motorists that they are entering a different kind of place and need to adjust their behavior accordingly. The locations of gateways are included in the Study scenarios. Gateway locations and design elements (i.e. signs and markers, and changes in typical sections and streetsides) should be further evaluated and incorporated into future projects.

As traffic moves through and towards the center of the corridor, and into downtown Zumbrota, the
thoroughfare design characteristics, and expected traveler behavior, should change to reflect the goals for each zone. Motorists awareness of zones, and the zone’s characteristics and goals should become part of the road design; this is especially true of target motor-vehicle operating speeds, which should desirably be in the 20 to 25 mph range in downtown “Main Street” Zumbrota.

**Study Scenarios**

The following four “Scenarios” frame the Study’s recommendations. The scenarios are based on our CSS approach and CSS-based Corridor Principals, and are intended to guide future improvements to meet Study goals over the 20-year Study period. Scenarios are also “evaluated” regarding their ability to meet Study goals. There is not a “recommend” or “preferred” scenario; the four scenarios are in a sense a “menu” of options to guide potential future improvements.

A basis of all the Scenarios is the setting of target operating speeds and posted speeds consistent with Study goals. The target operating speed varies by zone and timeframe. Speed data collected in 2011/2012 showed that “existing” motor-vehicle operating speeds were near posted speeds, however, some of these “existing” speeds are higher than recommended target operating speeds, especially in downtown Zumbrota in the long-term. In addition, the effect of the upcoming, 2013 Mill and Overlay project on target operating speeds is an unknown. The Study recommends that motor-vehicle speed data be collected in 2015/2016 (after the completion of the MN 58 Mill & Project), and that this and other information be used to reassessed the ability to meet target operating speeds and the potential need for speed management elements or other changes along the corridor. This reassessment should also inform the future MN 58 bridge replacement, and other, future projects.

A series of conceptual typical sections, and information regarding corridor characteristics, along with considerations for potential improvements by context zone, were used to develop the Study Scenarios. The corridor characteristics and considerations for potential improvements are found in detail after the Study Scenarios. The conceptual typical sections are found in the appendix.