

[FOR REVIEW AND COMMENT]

Report On Thompson Drive Traffic and Land Use Conditions (Lien Rd. south to CTH 'T' (Commercial Ave.), STH 30 and Swanton Rd.)

Review of Neighborhood Concerns, Conditions and History Affecting Thompson Drive,
Actions Done to Date, and Potential Next Steps and Recommendations

(May 12, 2000)

Introduction

In September 1999, the City TE Division embarked on a special effort to work with the neighborhood and residents on a transportation study and improvement plan for Thompson Drive, from Lien Road south to CTH 'T'/STH 30 and Swanton Road. With some limited Common Council funding and City Commission oversight provided by the Pedestrian Bicycle Motor Vehicle Commission, the TE Division is working with the neighborhood and other Citywide plans to develop a report and package of recommendations for neighborhood, PBMVC and Common Council consideration.

The purpose of this report is to:

- Identify and review Thompson Drive residents concerns;
- Identify and review conditions and history affecting Thompson Drive;
- Review City actions done to date re. Thompson Drive; and
- Review potential next steps and recommendations for the neighborhood and City re. traffic and land use conditions for Thompson Drive.

Resident Concerns

With the continuing development occurring adjacent to Thompson Drive, virtually in all directions, and in particular with the increasing development of the East Towne area, Thompson Drive residents are seeing increasing pressure from traffic, growth and development.

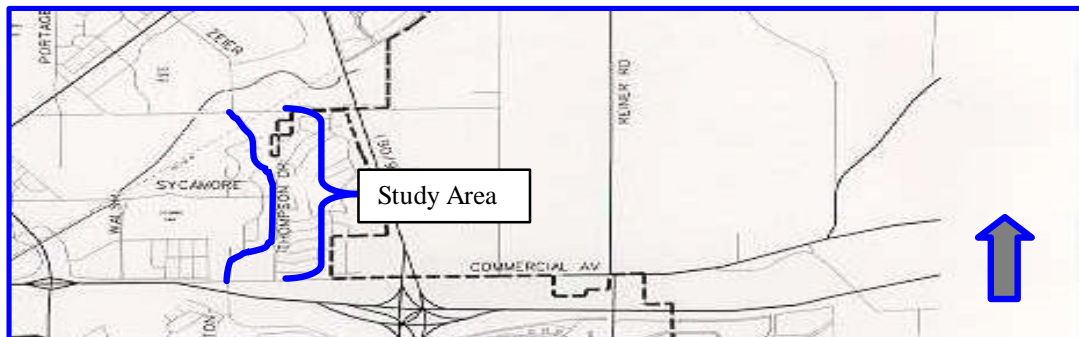


Figure 1. Street Segment Under Study.

As a result, residents have expressed several concerns, most recently at the kickoff neighborhood meeting held in September, 1999. These concerns include:

- speeding motorists;
- increasing traffic volume and noise;
- difficulty entering and exiting driveways and side streets;
- difficulty for pedestrians crossing Thompson Drive; and
- motorists driving the street as a 4-lane street.

Conditions and History Affecting Thompson Drive

There a number of factors, conditions and history affecting the environment on Thompson Drive. These include but are not limited to the following:

- Growth, Land Use and Development Pattern;
- Adopted Land Use and Neighborhood Plans;
- Road Network and Street System;
- Context and Functions;
- Streetscape and Fronting Property Characteristics; and
- Thompson Drive Street Design and Traffic Controls.

Growth, Land Use and Development Pattern. Growth, land use and the development pattern are clearly factors in the environment of Thompson Drive. Starting with East Towne in the early 1970's and more recently since the adoption of the East Towne—Burke Heights Development Plan in 1987, many developments in the area have taken place. The list of developments is long, and includes such names as:

- Ridgewood
- Glacier Heights
- Prentice Prairie
- East Towne Mall
- East Springs Drive and Zeier Road Areas including Menards, Kohl's, Best Buy, Circuit City, Bowl-A-Vard, Home Depot, Shoko, Toys-R-Us,etc.
- Target and the East Prairie Commons, former Wolohan's site, etc.
- Thierer Road and Eagan Road Areas including CUNA Credit Union, Mermaid Car Wash, Office Depot, Essex Square, etc.
- High Crossing/Nelson Neighborhood
- American Family/Rattmann Neighborhood

Street System. In addition to growth, land use and the development pattern, the street system plays a role in the environment of Thompson Drive. As can be seen from enclosed maps, N. Thompson Drive is the only north-south street serving this large area of the City besides USH 51 and the Interstate. The historical perspective is that this section of Thompson Drive replaces the Old Bultman Road, one of the original, few streets created long ago. Other than the Sycamore Ave-Mendota St connection, there are no other streets besides N. Thompson Drive that cross the railroad tracks. These are the limitations left in the street system, past and present. There is limited ability to change this situation significantly, except for encouraging the use of other routes as much as possible.

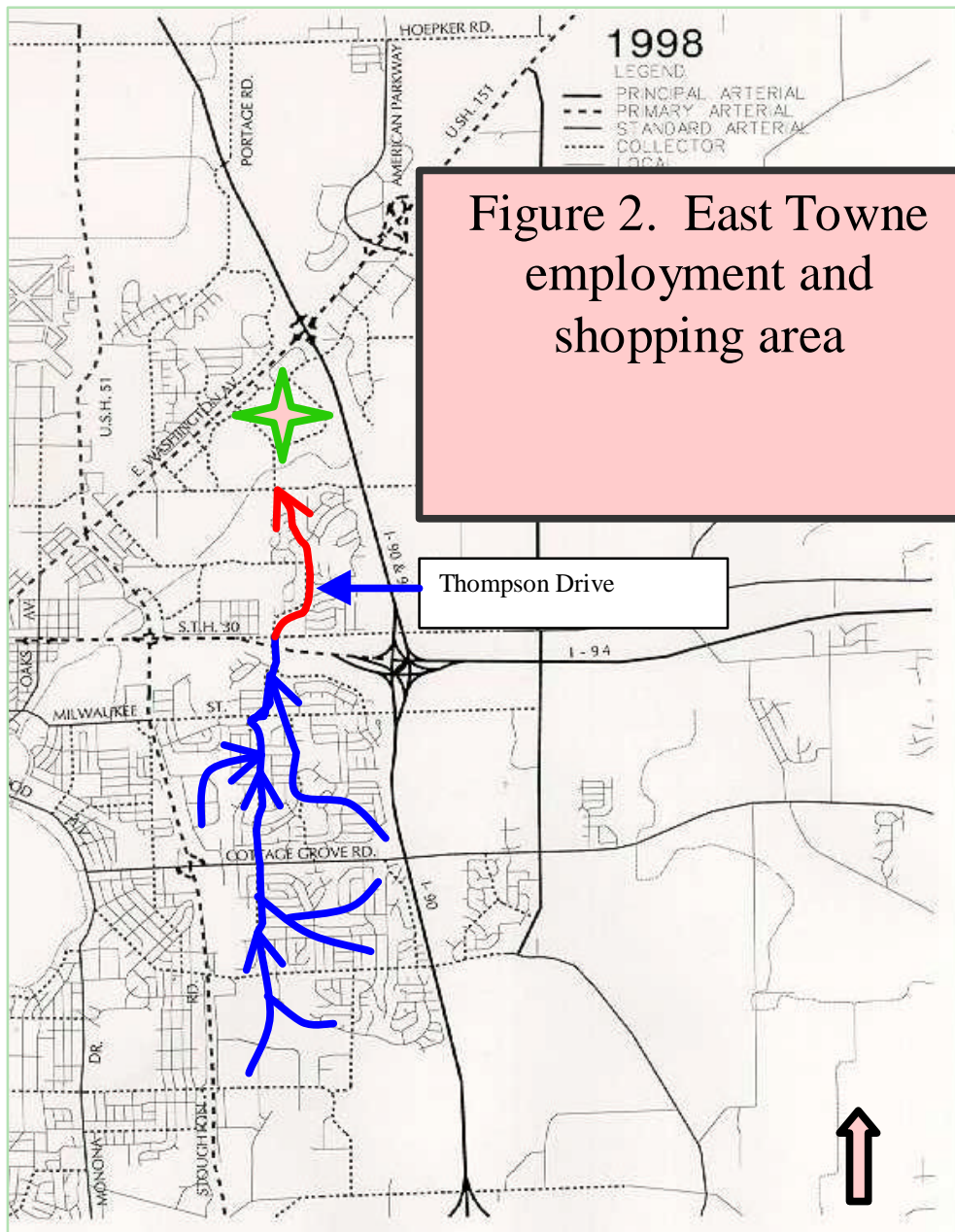


Figure 2. East Towne employment and shopping area

Context and Functions. Today, Thompson Drive serves both residents and the greater East Side area users. By virtue of its location and the connections it provides between residential areas and major commercial activity centers, it functions as an arterial level street in an area with few north-south connecting streets or parallel routes. As shown on maps of the neighborhood and area-wide street system, Thompson Drive provides both access and circulation to many user groups. This includes not only the residences fronting Thompson Drive, but also the many more residents of the Burke Heights and Ridgewood Neighborhoods.

Thompson Drive also is designated as a city bicycle route. This is due to its place in the limited street network and its important connections to the north and south. For some

users, Thompson Drive is the only reasonably located street available to access destinations, bus stops, and other connecting streets such as Lien Road, Sycamore Avenue, and Commercial Avenue.

The section of Thompson Drive under study is situated between Lien Road and the major regional activity centers of East Towne and High Crossing (for employment and shopping), and STH 30 and several residential neighborhoods to the south. Although USH 51 and the Interstate provide service to these land uses, Thompson Drive is clearly the natural and oftentimes more direct connector for the area's residents, shoppers and workers.

Adopted East Towne-Burke Heights Neighborhood Plan. The 1987 East Towne-Burke Heights Development Plan noted that Thompson Drive (then named Bultman Road) "although identified as a collector street,... will probably function as an arterial highway in the future because together with Zeier Road ... it will be a major north-south route between Buckeye Rd. and East Washington Ave."¹ As the neighborhood plan predicted, Thompson Drive functions as an arterial street. Unfortunately, in part due to the pattern of development along Thompson Drive, with homes fronting the street or accessing the street directly, this is a role that it is in conflict with the desire of the residents to live on a street that is more local or collector in nature.

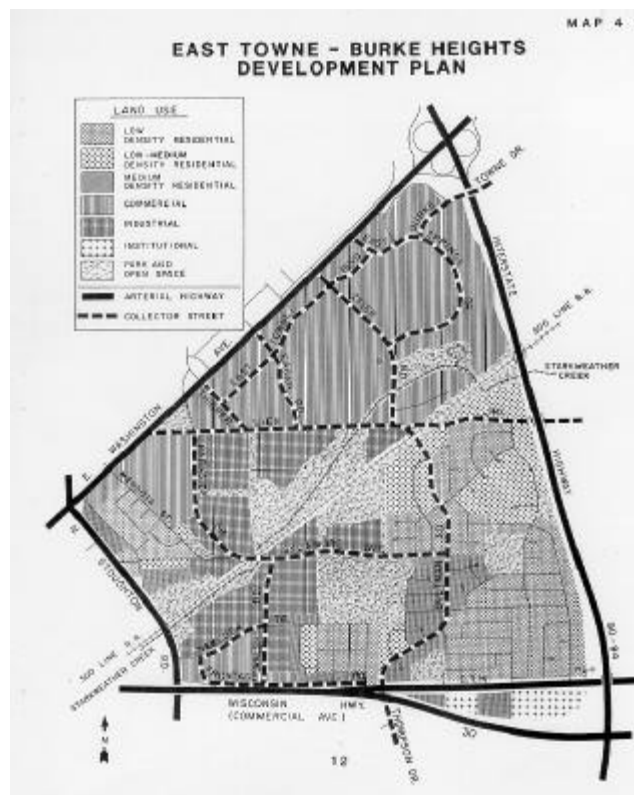


Figure 3: East Towne-Burke Heights Development Plan Map. (Source Burke Heights Development Plan, Madison Dept. of Planning and Development 1987)

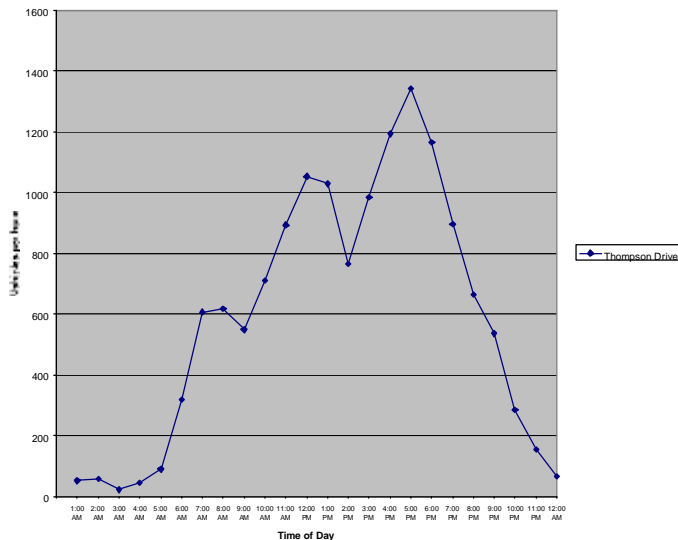
¹ East Towne-Burke Heights Development Plan, Madison Dept. of Planning and Development 1987.
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Figure 4. Thompson Drive looking north

Traffic Data. Between Lien Road and Commercial Avenue, Thompson Drive is carrying about 13,500 vehicles per day. Traffic volume during the day shows substantial peaks in the noon hour and late afternoon time periods (see Figure 5). This peaking characteristic is typical of routes with heavy commuter and shopping-related traffic.

Figure 5. Comparison of Thompson Drive Hourly Volumes



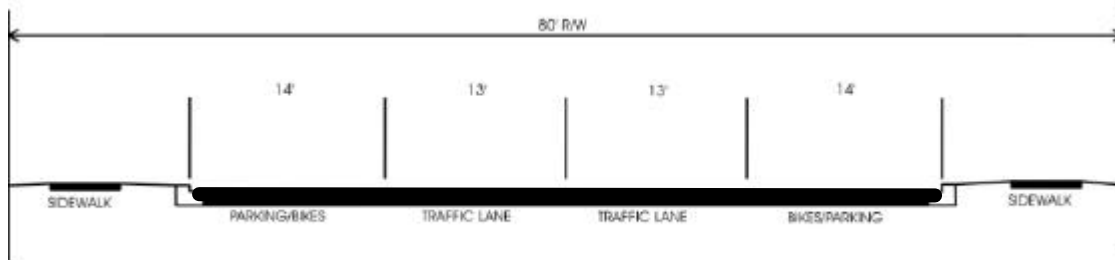
The posted speed limit on Thompson Drive is 30 mph. Speed data collected in 1999 showed traffic travelling at an average speed of just under 35 mph, and an 85%ile speed (the speed at which 85% of the vehicles are travelling at or below) of 39 mph.

From 1993 to 1998, there were 19 crashes. Of these, 10 were intersection related, one involved a parked car on Thompson Drive, and one involved a motorist entering or exiting a driveway along Thompson Drive. Crashes were evenly distributed between daylight and darkness, and clear roads and icy/snowy conditions. This crash record is fairly typical of similar facilities.

Street Cross Section. Thompson Drive in the study area is 54 feet wide with sidewalks on both sides of the street. Right of way (R/W) width is 80 feet. There are some undeveloped segments which have not been built to their final dimensions, however as development continues these areas will be built with curb & gutter and sidewalks. There is direct driveway access on some portions of Thompson Drive, while other areas have residences oriented to side streets.

The street is intended as a 2-lane street with parking and bike lanes on both sides, although the road is wide enough to carry 4 lanes of traffic plus bike lanes. Combined with high traffic volumes, some areas of the street have limited parking so the street is driven as a 4-lane street.

Figure 6: Existing street cross section.



Actions Taken to Date

City staff has been working with the neighborhood along Thompson Drive to help address neighborhood traffic concerns. Several actions have been taken. These include:

1. Installing Speeders Hotline Signs to inform residents about one method they can use to address concerns with speeding motorists.
2. Working with the Police Department to target enforcement efforts on Thompson Drive.
3. Obtaining funding to perform a traffic study on Thompson Drive
4. Attending a Neighborhood Meeting to solicit resident's concerns and outline process.



Figure 7. Speeders Hotline

5. Working with the Wisconsin Department of Transportation (WISDOT) and Dane County on solutions for the STH 30 ramps and CTH 'T' intersection with Thompson Drive.
6. Encouraging the Town of Burke and Dane County to include and plan for the missing link of Lien Road extended to Reiner/Sprecher Road.
7. Seeking and investigating alternative routes to Thompson Drive such as Parkside Drive extended to Commercial Ave and USH 51, as well as a more efficient USH 51 corridor and more efficient intersection of USH51/East Washington Ave.

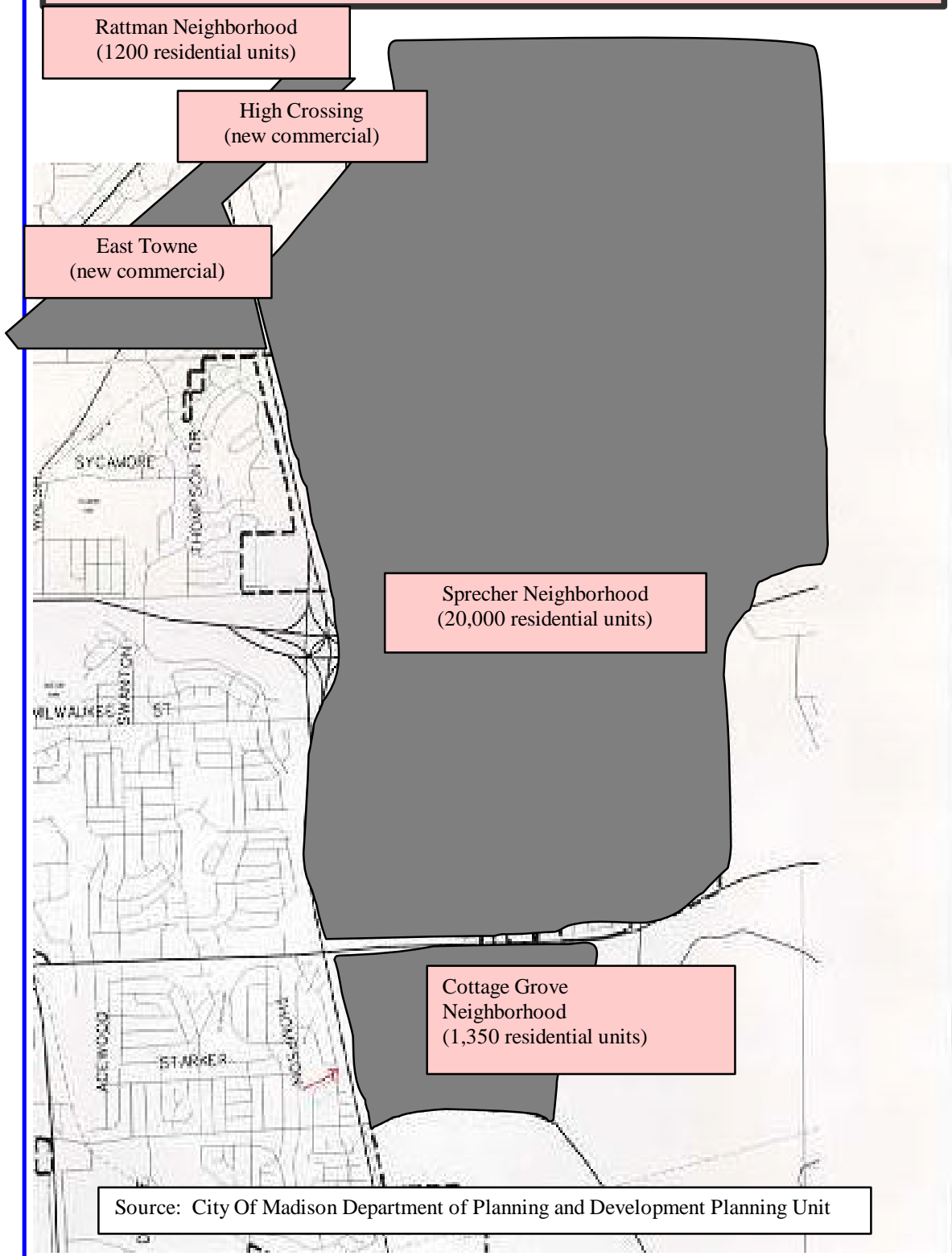
Potential Future Conditions on Thompson Drive

Area Development (Land Use). Both retail and commercial development is continuing in the Burke and Ridgewood neighborhoods. Additionally, nearby neighborhoods including the Sprecher neighborhood, Cottage Grove neighborhood, Nelson Neighborhood, and Rattman neighborhood will continue to generate traffic which will use the transportation system. Together, these neighborhoods will add more than 20,000 dwelling units, accounting for approximately 170,000 additional trips across the street system per day. Certainly, not all of these additional trips will be made on Thompson Drive, but this number illustrates the magnitude of the increase in trips and traffic in the general area which can be expected. For example, preliminary estimates by the Dane County Regional Planning Commission indicate that nearby streets such as Commercial Avenue will see traffic increase from around 7,600 vehicles per day in 1997 to over 20,000 vehicles per day in 2020, an average annual increase of 4.3%. For a historical comparison, between 1993 and 1999, traffic on Thompson Drive increased from 7,300 vehicles per day to 13,500 vehicles per day, an average annual increase of 7.9%.

Substantial additional commercial activity centers are also planned in the East Towne, High Crossing, and American Family Insurance areas, providing destinations for people living on the east side of Madison. The planned development is shown in Fig. 6.

Area Street Network. At present, Thompson Drive serves as one of the few through streets paralleling STH 51 (Stoughton Road), and I90/94. To help reduce the rate of increase or stabilize the growth of traffic volume on Thompson Drive, new parallel routes, capacity expansions to existing routes, or combinations of select street improvements with corresponding reductions in travel demand must be made. If no new parallel routes are provided, no new capacity expansions are made to existing routes, and travel demand is not reduced, a potential exists that operating conditions may necessitate the Common Council considering removal of current on-street parking on Thompson Drive and the street remarked as a four lane road. It is recognized that the neighborhood residents will not consider this outcome compatible with neighborhood goals.

Figure 8. Planned development adjacent to Burke and Ridgewood Neighborhoods



Source: City Of Madison Department of Planning and Development Planning Unit

Potential Changes to Thompson Drive

Given the existing conditions and potential additional traffic due to current and planned development, finding a complete and permanent solution or package of solutions to address all of the neighborhood residents concerns while at the same time maintaining mobility for area users may not be possible. However, actions can be taken to both reduce the impact of additional traffic on Thompson Drive and also reduce the amount of additional traffic on Thompson Drive. While basic traffic controls have limits as solutions to the neighborhood traffic concerns, changes can be made to Thompson Drive to mitigate the impact of increased traffic, and changes can be made system wide to diffuse the impacts of additional area commercial and residential development.

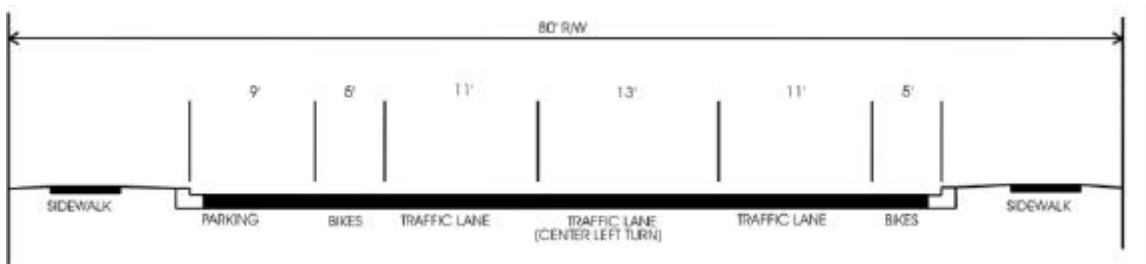
Potential changes to Thompson Drive:

On Thompson Drive itself, there are potential changes that can be made which will begin to address the neighborhoods concerns and improve safety for pedestrians and vehicular access for residents:

1. Consider a marked center left turn lane from Lien/Zeier intersection to Sycamore Avenue. (See aerial photo mock up). [Aerial of this can be done as a separate document]

Currently, Thompson Drive operates as a two lane street (one lane in each direction) with space for bicycles and parking. If parking is prohibited on one side of the street a center left turn lane could be provided. A center left turn lane provides space for left turning vehicles on the main street to move out of the path of through traffic. This benefits the area by precluding motorists from continuing to drive this street as if it were 4 lanes and it provides an area for residents to more easily gain access to and egress from their driveways and cul-de-sacs. In more detail, motorists turning onto Thompson Drive benefit by needing to contend with only one direction of traffic at a time. In essence the turn lane operates much like a center median opening of a boulevard street. People can turn first into the center turn lane, and then wait for a gap in the second direction in traffic. This is much easier than having to wait for traffic in both directions to be clear at the same time. The single disadvantage of the center left turn lane is the loss of parking on one side of the street. For this reason, due to the greater need for on-street parking between Sycamore Avenue and Commercial Avenue, a center left turn lane is less feasible in this area.

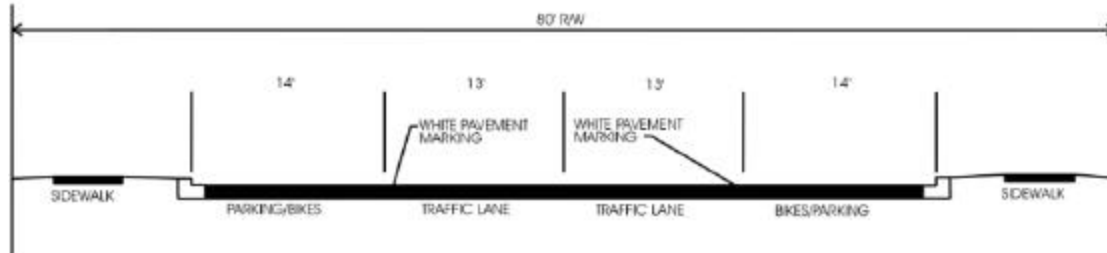
Figure 9: Potential street cross section with center left turn lane and parking on one side (Lien/Zeier to Sycamore).



2. Consider marked parking/bike lanes from Sycamore Avenue to Commercial Avenue.

Marking a center left turn lane is more difficult in this section due to the greater need for on-street parking along this stretch of road. By marking parking/bike lanes in this area, however, the apparent width of the road will be reduced, which could moderate motorists speed.

Figure 10: Street cross section with marked parking/bike lanes (Sycamore to Commercial).



3. Consider pedestrian refuge islands at select intersections on Thompson Drive.

To help pedestrians cross Thompson Drive more conveniently, pedestrian refuge islands could be installed on Thompson both at Sycamore and at Oak Valley. These islands would enable pedestrians to cross the street in two stages. The first stage would be to cross one half of the street to the island. The second step would be the continuation of crossing the second half of the street. This allows pedestrians to contend with one direction of traffic at a time. Islands also offer the benefit of influencing motorists to be more alert to pedestrians in the area, and can influence motorists to reduce their speed.

Figure 11. Local residential street pedestrian refuge islands (Islands on Thompson Drive will differ).



4. Consider traffic signals at select intersections along Thompson Drive.

Traffic signals have a profound influence on traffic flow. When installed under appropriate traffic and site conditions, traffic signals can provide:

- orderly movement of traffic,
- increased traffic handling capacity of the intersection,
- reduced frequency of certain types of crashes, especially of the right angle type,
- can be coordinated to provide continuous or nearly continuous movement of traffic at a definite speed along a given route,
- interruption of heavy traffic at intervals to permit other traffic, vehicular or pedestrian, to cross.

Although traffic signals can provide the benefits listed above, if traffic signals are not installed under appropriate conditions, they can result in:

- excessive delay
- encourage disobedience of the signal
- divert traffic to less desirable routes
- increase the number of crashes (especially the rear-end type)

Because traffic signals are only beneficial under certain conditions, there are several criteria used to evaluate the appropriateness of a traffic signal at certain locations. The City Of Madison Traffic Engineering Division annually reviews numerous intersections throughout the city and ranks them for their appropriateness.

Based on conditions along Thompson Drive, traffic signals are planned to be installed at the intersection of Lien & Zeier. Traffic signals are also planned for the intersection of Commercial Avenue and Thompson Drive when Commercial Avenue is rebuilt. Traffic signals are possible at Sycamore Avenue and Thompson Drive some time in the future, however traffic conditions are at this time unsuitable for traffic signals at this intersection.

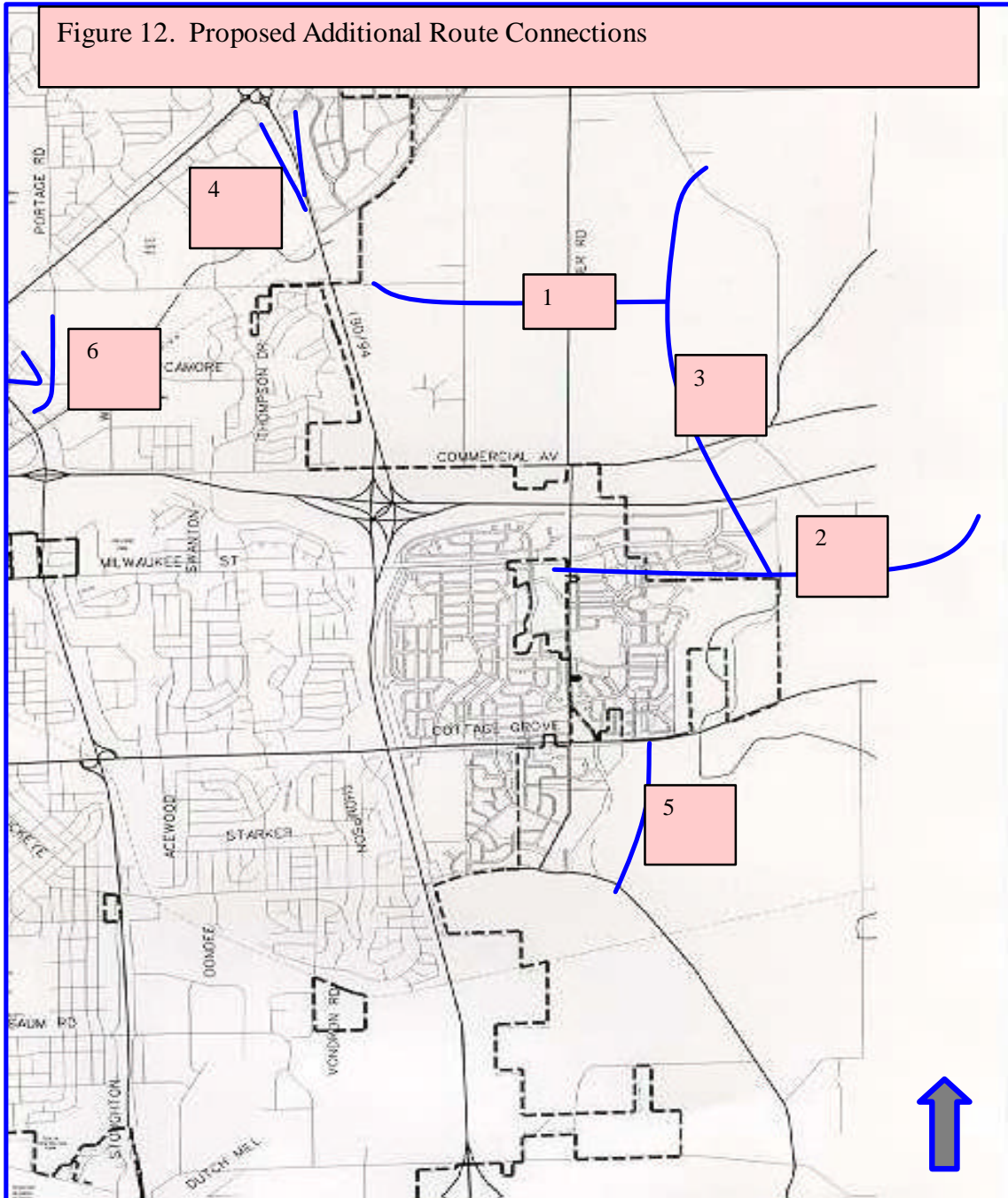
Recommended Transportation System Improvements

With the goal in mind of stabilizing the growth in traffic volume on Thompson Drive, the following alternatives are provided for consideration. The following connections will provide alternative routes to Thompson Drive.

Additional route connections include:

1. Extending Lien Road to Sprecher Road/Reiner Road (requires coordination with Town of Burke) to provide an alternative route to motorists destined to/from the Sprecher neighborhood and the East Towne area.
2. Extending Milwaukee Street to Gaston Road (Proposed as part of the Sprecher neighborhood plan)
3. Providing a new north-south connection across I94 between the extended Milwaukee Street and north to the proposed neighborhood north of Commercial Avenue
4. At High Crossing Boulevard and I 90/94, adding off and on ramp access to the south (under way)

5. Providing a north-south arterial connector east of Sprecher Road between Buckeye Road and Cottage Grove Road as proposed in the Cottage Grove neighborhood development plan)
6. Extending Parkside Dr. to Commercial Avenue (as part of this change, Sycamore Avenue will be split at Mendota Street. Mendota Street will loop back to Sycamore Avenue to the west)



In addition to the proposed connections, increasing the capacity of existing facilities is a key aspect for providing alternate routes and thereby reducing the traffic pressure on Thompson Drive. For example, East Washington Avenue and Stoughton Road must serve as viable alternative transportation corridors to Thompson Drive. Also, Sprecher/Reiner Road must be an attractive alternative to Thompson Drive in the future to reduce the impact of development on Thompson Drive. The following improvements will make these and other alternative routes potentially more attractive to users than Thompson Drive.

Possible Capacity enhancements include:

1. The Wisconsin Department of Transportation is planning to undertake a major investment study of USH 51 from the city limits to the north to the South Beltline to the south. The state will be reviewing options including removing signalized intersections and grade separating the intersections. This potential change will significantly improve USH 51 as a viable north-south arterial street, and may be expected to reduce traffic or the rate of growth of traffic on Thompson Drive.
2. Installing traffic signals at STH 30 off ramp and Thompson Drive (being considered by WisDOT).
3. Installing traffic signals at Commercial Avenue and Thompson Dr. (planned for when Commercial Avenue is rebuilt).
4. Expanding Sprecher Road, Milwaukee Street, and Cottage Grove Road to four lanes in certain sections.

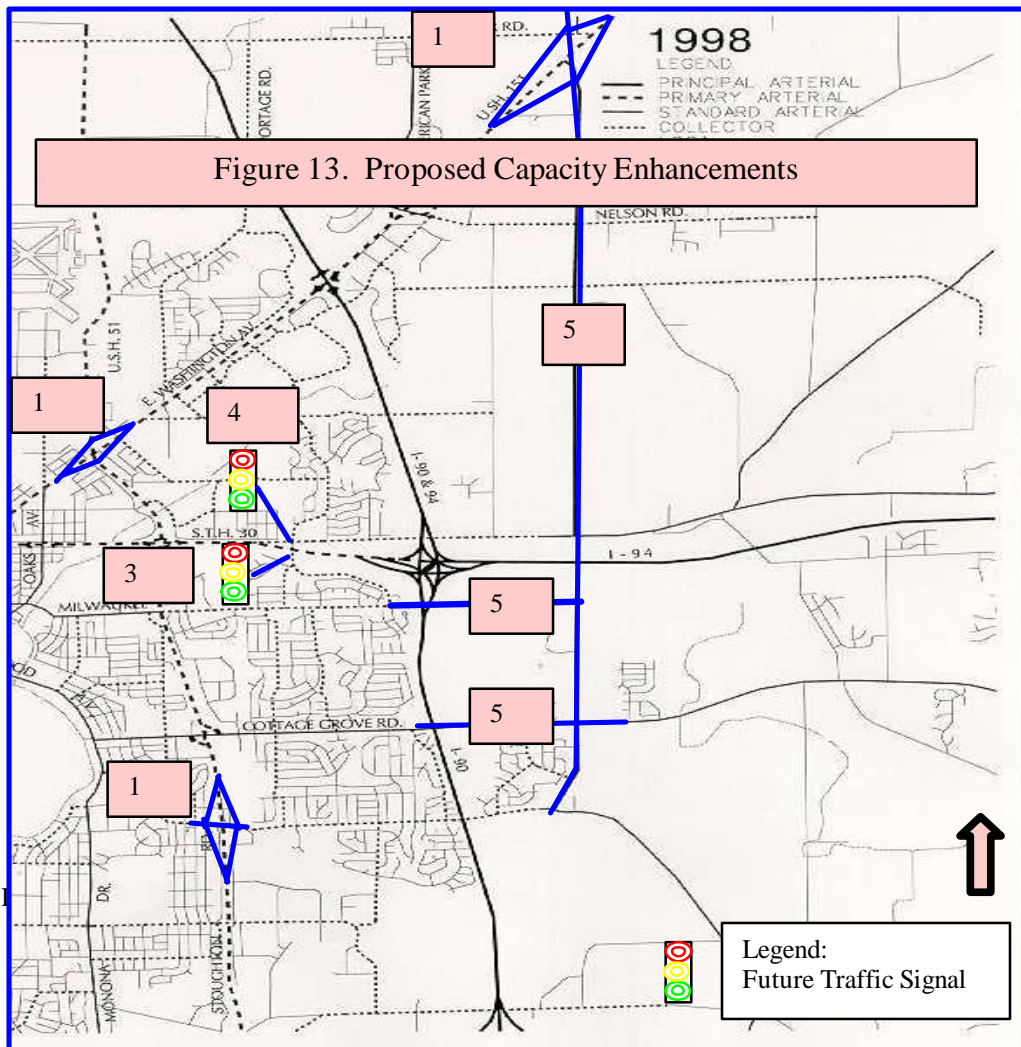


Figure 13. Proposed Capacity Enhancements

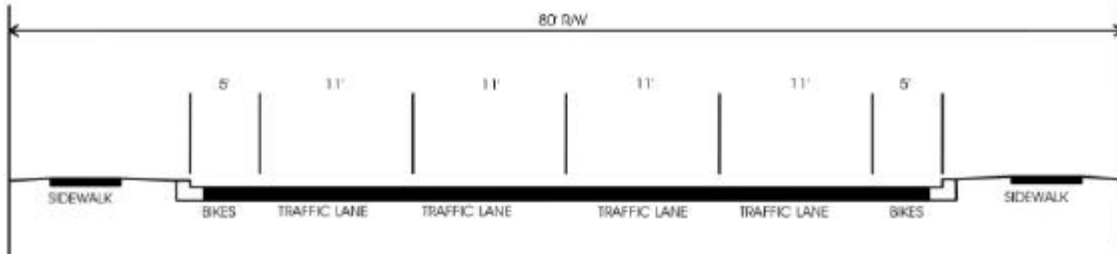
Land Use Impacts and Recommendations

It is clear that land use and transportation are intrinsically intertwined. Changes in land use and increasing commercialization in the Thompson Drive neighborhood area can increase the attractiveness of the area to shoppers from beyond the neighborhood. Some of this traffic can be expected to use Thompson Drive. The neighborhood is encouraged to become involved in land use reviews in the area and should particularly recognize that while some land uses while considered more aesthetically pleasing or desirable may generate higher levels of traffic.

The Status Quo Alternative

If development continues to cause traffic volumes continue to increase on Thompson Drive, and roadway improvements in other areas are not made as recommended in this report, a potential exists that the operating characteristics will require the removal of parking on Thompson Drive and the remarking of the street as a four lane road. As noted previously, motorists often use Thompson Drive as a four lane street as vehicles are rarely parked on the street. Hence a future scenario could be similar to that occurring today but with greater traffic volume.

Figure 14: 4-lane street cross section.



The role of Education and Enforcement

In addition to physical changes to the road and transportation network, education of the traveling public and enforcement of traffic laws are important components in addressing neighborhood traffic concerns. Without motorists' voluntary compliance with speed limits and basic rules of the road, physical changes to the roadway system will have only a limited effect. In the interest of encouraging motorists voluntary compliance with speed limits, the City of Madison Traffic Engineering Division provides a speed display board to residents who volunteer to operate the board. This is one way to bring the importance of observing the speed limit to motorists passing through the area. Information on the speed display board is available from the department. Residents in several Madison neighborhoods have coordinated "Pedestrian Zone" campaigns which combine the speed display board, signs, news releases, and so on to help raise motorists awareness of the importance of driving in a safe and responsible manner. Residents can also call the Speeding Hotline 266-4624 to report motorists who are speeding to the Madison Police Department.

Figure 15. Education and Enforcement



The need for Neighborhood Consensus and Buy-In, and Involvement in Transportation and Land Use

Clearly, traffic controls have limits as solutions to the neighborhood traffic concerns. It is vital that improvements are made area-wide to address the development occurring in and beyond the Burke and Ridgewood neighborhoods. A contributing factor to the difficulties on Thompson Drive today is that previous attempts to provide relief routes to Thompson Drive were unsuccessful due to a lack of support. Hence it is important that residents along and near Thompson Drive voice their concerns and encourage their representatives to support the needed improvements. In addition, the neighborhood needs to become more involved with growth, land use and development patterns as there is a direct relationship between land use and transportation that affects Thompson Drive.

Summary

Because of Thompson Drive's unique location and connections it provides between residential areas and major commercial activity centers, Thompson Drive functions as an arterial level street. Unfortunately, in part due to the pattern of development along Thompson Drive, with houses fronting the street or accessing the street directly, this is a role that is in conflict with the desire of the residents to live on a street that is more local or collector in nature. To help address residents concerns, city staff has been working with the neighborhood to take actions to minimize the impact of traffic in the neighborhood. With the current and planned development near and around Thompson Drive, however, it is likely that Thompson Drive will experience substantially greater traffic volumes in the future. To reduce both the amount and impact of increased traffic, changes to the area street network and Thompson Drive should be made.

Changes on Thompson Drive itself recommended for neighborhood consideration include the installation of a center turn lane and pedestrian refuge islands. Changes to the street network include adding new route connections and increasing capacity to existing facilities. Proposed new route connections include:

- Extending Lien Road to Sprecher Road/Reiner Road
- Extending Milwaukee Street to Gaston Road
- Providing a new north-south connection across I94 between the extended Milwaukee Street and north into the area north of Commercial Avenue
- At High Crossing Boulevard and I 90/94, adding off and on ramp access to the south
- Providing a north-south arterial connector east of Sprecher Road between Buckeye Road and Cottage Grove Road
- Extending Parkside Dr. to Commercial Avenue (as part of this change, Sycamore Avenue will be split at Mendota Street. Mendota Street will loop back to Sycamore Avenue to the west)

Proposed capacity expansions include:

- Upgrades proposed as part of WisDOT's major investment study for USH 51.
- Traffic signals at STH 30 off ramp and Thompson Drive.
- Traffic signals at Commercial Avenue and Thompson Dr.
- Expanding Sprecher Road, Milwaukee Street, and Cottage Grove Road to four lanes in certain sections.

These changes should be made along with efforts to educate motorists about their responsibility to drive safely, and enforce of traffic laws. City staff encourages residents to make use of the department's Neighborhood Speed Watch Program, and to request enforcement of traffic laws by the Madison Police Department. Combining the efforts of neighborhood residents, Traffic Engineering, and the police department will give the best chance of success for improving conditions on Thompson Drive.

