M-153/Ford Road Access Management and Traffic Operations Study

Prepared for:
Michigan Department of Transportation

In cooperation with: Canton Township and Wayne County

Prepared by:
The Corradino Group, Inc.

September 2004
Summary

Canton Township has become one of the most attractive communities in Michigan. This is evident by its burgeoning population. It has the amenities that people are seeking and is close enough, and removed enough, from major urban activities to have become a preferred location. Its dynamic major thoroughfare—M-153/Ford Road—is also the community’s primary access link to the regional interstate highway system. Consequently, congestion has become the single most important challenge for this area.

Due to the high traffic volumes on M-153/Ford Road, businesses have chosen to locate along that corridor in large numbers. Between Home Depot, on the east, and just west of Canton Center Road, Ford Road has become a heavily developed commercial corridor. The businesses are competing for the customers who drive past each day, which they do not want to lose because of traffic- or access-related issues. The solutions identified will protect and improve the access for these customers so the market area of these businesses expands because of the improved operations.

In dealing with a “Greenfield” site it would be easy to implement good Access Management principles, such as those identified in MDOT’s The Access Management Guidebook. However, the need for access management almost always occurs, as in Canton Township’s case, after much development has limited the choices and increased the costs of the optimal “fixes.” The challenge now is to identify the best approach given the potential interruption to businesses and the costs to both public and private sector interests.

The Michigan Department of Transportation, Canton Township and Wayne County have undertaken a study of access/traffic-related issues that affect M-153/Ford Road between Lotz and Napier Roads. The study began in January 2004 and concluded in September 2004.

The Access Management Phase of the work provides guidance to MDOT, the Township, and Wayne County regarding the control of access to Ford Road, and the process of administering access management principles through the Township’s ordinances and site plan review processes. The Traffic Operations Phase of the work addresses traffic flow in the M-153/Ford Road Corridor. Recommendations are made on turn lanes, additional right-of-way needs, and other improvements based on the access management recommendations and future traffic projections.

When combined, access management and improved traffic operations are intended to meet the following objectives.

- Reduce congestion/delay along the Ford Road corridor;
- Maintain the traffic carrying capacity of the roadway and delay costly capacity improvements where possible;
- Reduce the number of traffic crashes;
- Identify acceleration/deceleration lanes to reduce delay;
- Improve ingress and egress to businesses;
- Coordinate land use decisions; and,
- Improve the aesthetic appeal of the Ford Road corridor.
Approach

The Michigan Department of Transportation engaged The Corradino Group to assist in this project. It conducted three tasks in each of two phases over the period from January through September 2004. A key to this effort was the involvement of the Canton Township community. This began with interviews in January and February 2004 of more than five dozen owners/operators of businesses along the study corridor. This was followed by a workshop in February of those directly living and/or working along Ford Road to have them articulate those access/traffic problems and opportunities along the corridor and their suggested solutions. These items were then brought to the general public on March 25, 2004, and the list of issues was expanded.

Additional workshops for those directly living/operating businesses along Ford Road were then held in April and June to address access management/traffic operations solutions. Each workshop was followed by a general public meeting to discuss, on a broader community basis, the concepts generated at the workshops.

It is noteworthy that each workshop included more than 500 mailings of those directly living/operating businesses along Ford Road. More than 5,000 mailings were made to the community-based meetings held between workshops. Media advisories and Canton Web site announcements accompanied both types of meetings and project team members promoted meetings by appearing on local public access TV programming. Finally, it is noted that a telephone “hotline” was available throughout the study.

Models

Two sets of models were used to define future traffic conditions. One is the TranPlan regionwide analysis package used by SEMCOG. It is a macro simulation package which allows the entire dynamic of the seven-county Southeast Michigan region to be taken into account through the year 2025. TranPlan also allows a “window” to be created to focus on a narrow area – in this case Canton Township. The resultant TranPlan data allow determinations of expected traffic growth in the “windowed” area that can then be compared to and adjusted for more local conditions, such as those reflected in zoning decisions.

A second set/pair of models – SYNCHRO/CORSIM – was used to examine the M-153/Ford Road corridor at a “micro” level. The models’ network is more fine grained than the TranPlan network and allows consideration of every intersection and driveway along Ford Road; the traffic movements at each; and, the phasing/timing of traffic signals.

Results

Application of the two sets of models allowed a “first” indicator of the effects of traffic growth using SEMCOG’s data. They reflect a nine percent growth in Ford Road corridor traffic by 2014 and 18 percent by 2024. The SYNCHRO/CORSIM model set was then applied to highlight potentially significant congestion, if no improvements were made in the corridor. The results indicate congestion today in morning peak traffic hour is a problem at Ford Road’s intersections with Beck Road and Haggerty Road. Congestion will occur in the near future at the location of the southbound I-275 ramp at Ford Road.
In the afternoon peak travel period, Ford Road’s intersections at Beck and Haggerty Roads have a congestion problem today. Also experiencing congestion are Lilley Road and the southbound I-275 ramp to Ford Road. Within the next ten years, these problem locations will be joined by the intersections of Ford Road with Canton Center Road, the location of Ford Road at the exit ramp from northbound I-275, and Lotz Road. Also, Sheldon Road at Ford Road exhibits traffic in the future very close to the intersection’s capacity. In other words, every signalized intersection on Ford Road, except for Morton Taylor Road and the access point to Wal-Mart, will need attention to relieve the significant congestion anticipated using the growth forecasts derived from SEMCOG’s data.

To address these congestion issues the following are proposed:

- **Ford/Lotz Roads** – Add thru lane westbound on Ford Road plus modification of the traffic signal phasing to allow protected left-turn movements of Ford Road to Lotz Road.

- **I-275 Northbound Off-Ramp to Ford Road** – Provide additional left-turn lane on the off-ramp to accommodate dual left-turn movements to westbound Ford Road.

- **Ford/Haggerty Roads** – Provide exclusive right-turn lanes in each direction on Ford Road. Convert continuous right-turn lane into shared and through lane in WB direction. Add new through lane in EB direction (halfway to Lilley to I-275).

- **Ford/Lilley Roads** – Provide exclusive right-turn lanes in each direction on Ford Road. Extend continuous right-turn lane into shared/through lane to west of Lilley in WB direction. Add new through lane in EB direction (west of Lilley to halfway to Haggerty).

- **Ford/Sheldon Roads** – Add a northbound through lane and an exclusive northbound right-turn lane on Sheldon Road.

- **Ford/Canton Center Roads** – Add exclusive eastbound right-turn lane on Ford Road.

- **Ford/Beck Roads** – Add eastbound and westbound through lanes on Ford Road. Ford Road would transition to one lane in each direction prior to Ridge Road.

It is noted the improvements to address the congestion along M-153/Ford Road at Haggerty and Lilley Roads would require such widening that implementing such solutions should only be considered in light of the development of a boulevard on Ford Road from a point west of Lilley Road to I-275 as discussed below.

In addition to these proposed roadway improvements, almost 70 access management proposals have been developed. The full report documents these in their entirety. An example is the set of proposals between Haggerty and Lilley Roads. In describing these examples, the photos on Figures S-1a, S-1b and S-1c are oriented with a view to the north. The discussion of access management proposals moves from east to west along the north side of the road and then back to the east along the south side of M-153/Ford Road.
Proposed Cross Access Easements

- N. – Between Speedy Muffler, Discount Tire, and Midas Muffler (Figure S-1a)
- N. – Between Midas Muffler and National City Bank (Figure S-1a)
- N. – Between Chili’s and Fountain Square Plaza (Figure S-1b)
- N. – Between Fountain Square Plaza and former Coover Restaurant (Figure S-1b)
- N. – Between New York Carpet World and Willow Creek Plaza (Figure S-1c)
- N. – Between Willow Creek Plaza and Flagstar Bank (Figure S-1c)

- S. – Between the Speedway station and Sears Center (Figure S-1c)
- S. – Between Sears Center and Waterbed Gallery (Figure S-1b)
- S. – Between Plymouth Construction and Lighthouse Car Wash (Figure S-1b)
- S. – Between Lighthouse Car Wash and self service car wash (Figure S-1a)
- S. – Between self service car wash and Cracker Barrel Party Store avoiding the vacuum area (Figure S-1a)
- S. – Between Roman Forum and the properties to the west and east of it (Figure S-1a)
- S. – Between Dunkin Donuts, Wendy’s and the Charter One Bank (Figure S-1a)

Proposed Driveway Consolidations and Closures

- N. – Close the Shell Oil station driveways 50 feet east of Haggerty Road
- N. – Close the National City Bank driveway between Midas Muffler and the old K-Mart driveway (Figure S-1a)
- N. – Close the KFC driveway west of old K-Mart driveway (Figure S-1a)
- N. – Close Chili’s driveway west of KFC driveway (Figure S-1b)
- N. – Close the Flagstar Bank driveway less than 50 feet from Lilley intersection (Figure S-1c)

- S. – Close the Speedway station west driveway less than 50 feet from Lilley intersection (Figure S-1c)
- S. – Consolidate the Waterbed Gallery driveways (Figure S-1b)
- S. – Consolidate the Cracker Barrel and Lighthouse Self Service Car Wash driveways (Figure S-1a)

Additionally, extended deceleration lanes are proposed at Dunkin Donuts and Wendy’s (Figure S-1a) and the Speedway and Sears Center (Figure S-1c). It is emphasized that before attempting to close and/or consolidate driveways along M-153/Ford Road, success will be required in obtaining cross access easements.

Impacts of Access Management Improvements

To define the potential of the proposed access management improvements, the SYNCHRO/CORSIM model was applied to the section of M-153/Ford Road between Haggerty and Lilley Roads. The proposed changes in the seven driveways in this segment of Ford Road (Figures S-1a through S-1c) would allow the traffic to “even out,” i.e., reduce the stop-and-go pattern, and decrease the delay per vehicle by about 15 to 20 percent. This would create less air pollution (carbon monoxide emissions) and fuel consumption (5 to 10%). The access management proposals in this segment of M-153/Ford Road would also reduce by about 20 percent the number of conflict points where accidents can occur.
Additional Considerations

Traffic Growth

The developments approved and proposed in Canton Township will produce an additional 58,000 daily trips. It is expected that more than 31,000 of these trips will begin and end within one mile of Ford Road. By examining the roadway network in the Township, analysis indicates that more than 1,300 new trips could be added to Ford Road westbound in the afternoon peak hour and about 450 eastbound in the corridor during that same peak period. This means the traffic growth over today’s traffic on Ford Road may be 35 percent. This compares to 18 percent in 20 years using SEMCOG’s data. The congestion caused by this higher level of traffic cannot be mitigated by the traffic operations and access management improvements discussed earlier. Nor can a two-lane (in each direction) boulevard with a median (that eliminates many of the left turns to/from Ford Road) address the expected level of congestion. The most logical solution is a three-lane boulevard between I-275 and a point west of Lilley Road. This solution will require right-of-way acquisition. Nevertheless, if Ford Road is to remain a viable corridor in which traffic can be handled and economics sustained, this type boulevard solution needs to be addressed in another stage of the study, considered Phase II.

New I-275 Interchange

Suggestions were made during the public discussion process to add new interchanges on I-275 either at Warren Road or Palmer Road. Action on these proposals requires a complete regional analysis of traffic and eventual review/approval by the Federal Highway Administration (FHWA). FHWA’s position on new interchanges, uniformly taken throughout Michigan, is that the interstate system is for regional travel, not local, and new interchanges that do not support the goal of regional travel are unlikely to be approved.

Nevertheless, an early analysis of a new I-275 interchange at Warren or Palmer Roads using SEMCOG’s regional model, indicates a new interchange would not alleviate the traffic on Ford Road between I-275 and Canton Center Road. This is logical because Ford Road in downtown Canton is a “destination.” When considering that the development already approved for Canton Township will generate another 31,000 daily trips within one mile of Ford Road that are not included in the analysis by using data from SEMCOG’s model, a new I-275 interchange is expected to have little effect on Ford Road traffic.

Action Plan

Access management regulations typically are adopted within a community’s zoning ordinance, which is administered by the Planning Commission. As new development or redevelopment occurs along a corridor such as Ford Road, the plans must be submitted to the Planning Commission for site plan approval. The access management regulations are then applied during the site plan approval process.

The regulations may contain provisions regarding the number of driveways, cross-access easements and dimensions of drives and entrances. The regulations may be applied community-wide on local, county and state roads, or may be applied only to specified roads through corridor plans or “overlay districts,” which provide specific regulations for defined roads or areas.
Using access management regulations through zoning provisions is considered a long-term approach to access management. Application of the regulations relies on new development or redevelopment to occur.

Communities can take a pro-active, short-term approach as well by going directly to the business owners to arrange cross-access agreements or drive closings. The community can develop incentives to encourage cooperation from property owners. An example of an incentive is allowing a business owner to erect a ground or monument sign near the roadway if that business agrees to cross-access and closes its driveway.

To make the changes offered in this document, a series of steps needs to be taken by the partnership of MDOT, Canton Township and Wayne County. To the extent possible, the Canton Downtown Development Authority (DDA) should be an active part of the team. Table S-1 lists the items that need action. The timing and responsible party are defined. The potential cost, articulated as a range of dollars, is also cited.

A critically important issue in moving forward is the codification of the access management process for the Ford Road corridor. It is proposed that an overlay district be applied. A draft set of regulations is included in the appendices to this report. To advance the cross access proposals, a sample agreement is also included in the appendices to this report. Finally, to allow MDOT, Canton Township and Wayne County to act in concert on all future issues related to the M-153/Ford Road corridor access, a model Memorandum of Understanding is included in the appendices to this report. One important item of cooperation that should begin as soon as possible is the early notification by Canton Township of MDOT of proposed developments requiring a driveway permit on Ford Road. To the extent possible, the Canton Downtown Development Authority should be considered as an additional signatory of the MOU.

**Monitoring Program**

MDOT, Canton Township and Wayne County should continue the Steering Committee initiated for the M-153/Ford Road Access Management Study. It, too, should include the Canton DDA. The group should meet no less frequently than every six months. Assignments should be made for the collection of data on traffic volumes, crashes, traffic citations issued, developments approved/denied, driveway permits issued, driveways consolidated, cross access agreements executed, and other improvements to such items as traffic signal changes. A proposed sharing of these responsibilities is also shown on Table S-2.
### Table S-1

**M-153/Ford Road**  
**Access Management/Traffic Operations Recommendations**  
**Proposed Assignment of Responsibilities**

<table>
<thead>
<tr>
<th>Item</th>
<th>Time Frame</th>
<th>Cost(^1)</th>
<th>Principal Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Review/Take Action on Access Management/Traffic</td>
<td>2004</td>
<td>NA</td>
<td>MDOT/Canton Township</td>
</tr>
<tr>
<td>Operations Plan</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Execute Memorandum of Understanding</td>
<td>2005</td>
<td>NA</td>
<td>MDOT/Canton Township/Wayne County</td>
</tr>
<tr>
<td>Review/Take Action on Access Management Overlay Zone</td>
<td>2005</td>
<td>NA</td>
<td>Canton Township</td>
</tr>
<tr>
<td>Secure Cross Access Easements</td>
<td>2005 Forward</td>
<td>Not defined</td>
<td>Canton Township</td>
</tr>
<tr>
<td>Consolidate/Close Driveways</td>
<td>Only as cross access easements secured</td>
<td>Not defined</td>
<td>Canton Township</td>
</tr>
</tbody>
</table>

**Ford/Lotz Roads**

- Add through lane westbound on Ford Road plus modification of the traffic signal phasing to allow protected left-turn movements of Ford Road to Lotz Road  
- 2005 to 2010  
- $250,000 to $350,000  
- MDOT

**I-275 Northbound Off-Ramp to Ford Road**

- Provide additional left-turn lane on the off-ramp to accommodate dual left-turn movements to westbound Ford Road  
- 2005 to 2010  
- $150,000 to $250,000  
- MDOT

**Ford/Sheldon Roads**

- Add northbound through lane and an exclusive northbound right-turn lane on Sheldon Road  
- 2005 to 2010  
- $200,000 to $300,000  
- Wayne County

**Ford/Canton Center Roads**

- Add exclusive right-turn lane on Ford Road  
- 2005 to 2010  
- $100,000 to $150,000  
- MDOT

**Ford/Beck Roads**

- Add eastbound and westbound through lanes on Ford Road  
- 2010 to 2015  
- $2.0 to 2.5 million  
- MDOT

**Ford/Haggerty Roads**

- Provide exclusive right-turn lanes in each direction on Ford Road. Convert continuous right-turn lane into shared and through lane in WB direction. Add new through lane in EB direction (halfway to Lilley to I-275)  
- Defer until decision is made to consider a Ford Road boulevard between I-275 and Lilley Road  
- $1.0 to 1.5 million  
- MDOT

**Ford/Lilley Roads**

- Provide exclusive right-turn lanes in each direction on Ford Road. Extend continuous right-turn lane into shared/through lane to west of Lilley in WB direction. Add new through lane in EB direction (west of Lilley to halfway to Haggerty)  
- Defer until decision is made to consider a Ford Road boulevard between I-275 and Lilley Road  
- $1.0 to 1.5 million  
- MDOT

**Study Boulevard on Ford Road between I-275 and Lilley Road**

- 2007 to 2010  
- $1 to $2 million  
- MDOT

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\(^1\)In 2004 dollars.  
NA – Not Applicable.  
Source: The Corradino Group of Michigan, Inc.
<table>
<thead>
<tr>
<th>Item</th>
<th>Time Frame</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compile list of executed cross access easements</td>
<td>Quarterly</td>
<td>Canton Township</td>
</tr>
<tr>
<td>Monitor driveway status</td>
<td>Monthly</td>
<td>Canton Township/MDOT</td>
</tr>
<tr>
<td>✔ Those closed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>✔ Permits requested</td>
<td></td>
<td></td>
</tr>
<tr>
<td>✔ Permits granted</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Define development proposals</td>
<td>Monthly</td>
<td>Canton Township</td>
</tr>
<tr>
<td>✔ Number made</td>
<td></td>
<td></td>
</tr>
<tr>
<td>✔ Number approved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>✔ Number denied</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collect traffic volume data</td>
<td>Annually</td>
<td>MDOT</td>
</tr>
<tr>
<td>Document traffic signal timing/location changes</td>
<td>Annually</td>
<td>MDOT</td>
</tr>
<tr>
<td>Collect crash data</td>
<td>Annually</td>
<td>MDOT</td>
</tr>
<tr>
<td>Collect traffic citation data</td>
<td>Annually</td>
<td>MDOT/Canton Township</td>
</tr>
<tr>
<td>Survey owners of property along M-153/Ford Road</td>
<td>Every three years</td>
<td>Canton Township</td>
</tr>
</tbody>
</table>

Source: The Corradino Group of Michigan, Inc.