

**TRANSPORTATION COMMISSION**  
**AGENDA ITEM NO: 2**  
**NOVEMBER 11, 2008**

CONSENT ITEM [ ]      REGULAR ITEM [ X ]      WORKSHOP ITEM [ ]

---

**FROM:** Matthew J. Hotelling, P.E., Traffic Engineer *MJH*  
**THROUGH:** Kent Collins, P.E., Assistant Town Manager *KC*  
**PRESENTER:** Matthew J. Hotelling, P.E., Traffic Engineer  
Brian Shamburger, P.E., Kimley-Horn & Associates  
**ITEM:** Public Hearing to consider a request for approval of the  
Town of Flower Mound Master Transportation Plan.

---

Recommendation

Motion

Direction

Information

---

**I. ITEM SUMMARY:**

This item is to consider a recommendation on the Master Transportation Plan Update.

**II. FISCAL IMPACT:**

N/A

**III. BACKGROUND INFORMATION:**

The Master Transportation Plan was first presented to the Transportation Commission in February of 2008. Discussion was held regarding an ongoing study to develop a Master Transportation Plan. The Master Transportation Plan Update then came back to the

Transportation Commission for additional input and discussion at a May 27, 2008, Transportation Commission Workshop.

Since the May 27, 2008, workshop, Kimley Horn and Associates (KHA) has worked to incorporate those ideas into the draft Master Transportation Plan. The draft Master Transportation Plan then went to a work session with the Planning and Zoning Commission on September 22, 2008, for their input and discussion. The main points of interest from the Planning and Zoning meeting were the widening of Shiloh Road to a four lane facility and the need to coordinate this effort with our neighboring cities. Other items for discussion were the need for mass transit without interurban buses and connection to the Denton County Transit Authority (DCTA) train stations in Lewisville. The last area of concern was the grade separation at the FM 2499 and Gerault intersection and how this area would look and the coordination that would be required.

After the September 22, 2008, Planning and Zoning Commission meeting, the draft Master Transportation Plan went to the October 16, 2008, Town Council Work Session. The Town Council had some of the same concerns as the Planning and Zoning with the coordination between our neighboring cities of Double Oak, Bartonville, and Grapevine in order for some of the ideas in the plan to come to fruition. There were comments regarding the use of transit and how such a system could be started and what areas it would serve. There was also concern for how the grade separated interchange would look coming into Flower Mound and concerns with the lane drop/addition at the interchange.

Other items brought forward for discussion included the urban collector that connects FM 407 to Dixon Lane to service as an alternative to serve the commercial interests in the corridor. There was also positive feedback from the Town Council on the extension of West Windsor to FM 2499 without the connection to the existing Windsor Drive.

One additional concern brought forth was the need for an additional east/west alternative to FM 1171 from Shiloh Road to Flower Mound Road. Therefore, one of the items being brought before the Transportation Commission is to consider this east/west connection and its impacts.

**IV. LEGAL ISSUES:**

N/A

**V. OTHER CONFLICTS OR ISSUES:**

N/A

**VI. ATTACHMENTS:**

Draft Master Transportation Plan

**VII. ALTERNATIVES AND OPTIONS:**

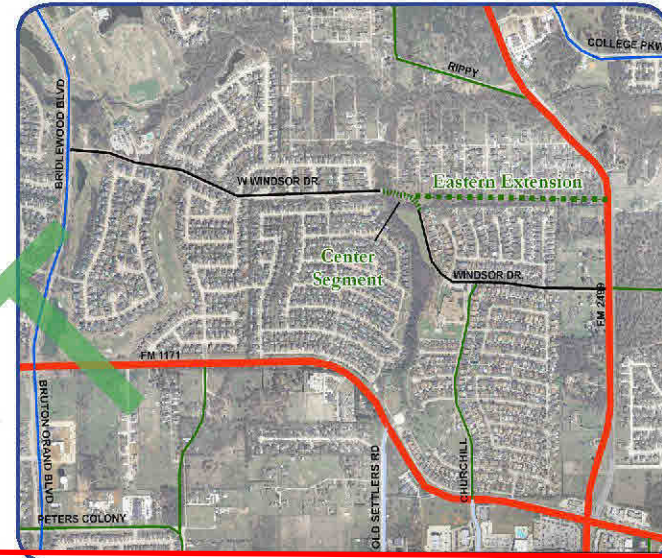
Alternatives include recommending as presented or recommending with changes.

**VIII. RECOMMENDED MOTION AND/OR ACTION:**

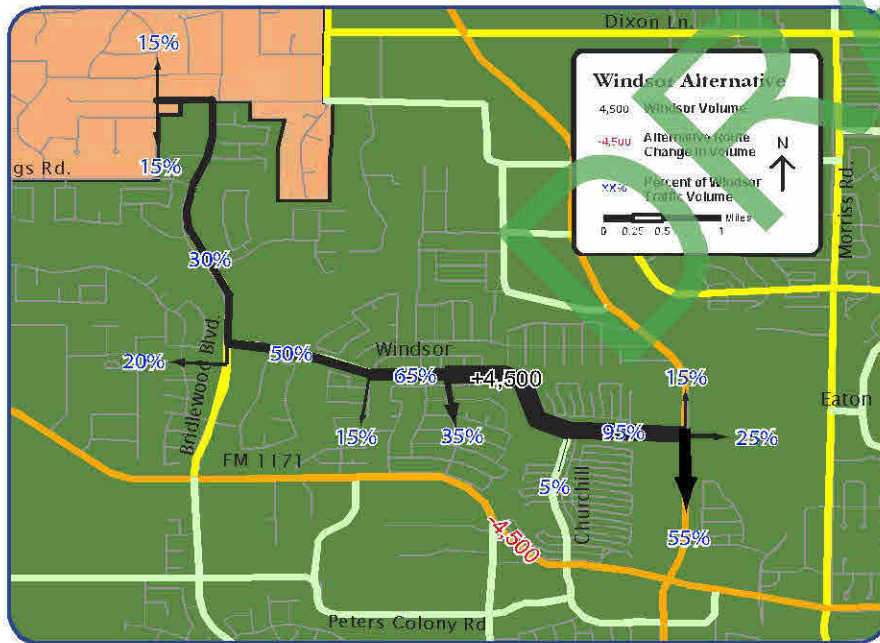
Move to recommend approval of the Town of Flower Mound Master Transportation Plan.

There is currently an eastern and western segment of Windsor Dr. with the center segment not constructed. The Model forecasts that approximately 4,500 daily trips unnecessarily travel on FM 1171 due to the lack of continuity of Windsor Dr. This reduction of 4,500 trips improves the level of service on FM 1171 from LOS E to D.

There are three potential solutions to make Windsor Dr. a continuous through street. The first solution is to extend the western segment straight east to a signalized intersection with FM 2499. The second solution is to construct the center segment. The benefit of the first solution is that the additional traffic will not travel along the residential eastern segment. The benefit of the second solution is that an additional signal would not be required which would slow traffic on FM 2499. The third solution is a combination of the first and second, providing the optimum level of circulation.



Windsor Dr. Alternatives



2030 Windsor Alternative

**Recommendation**

It is recommended that the Town construct the eastern extension to FM 2499. The eastern extension will provide better east-west mobility for the subarea and will remove approximately 4,500 unnecessary trips off FM 1171. Where residential houses front Windsor Dr., the application of traffic calming measures (e.g. roundabouts, raised intersections, speed table, etc.) should be studied. While the additional signal at the intersection of the northern extension segment and FM 2499 will create more delay on FM 2499, it will be negligible due to the ease of coordinating the two Windsor signals together. It is not recommended that the center segment be constructed because the additional traffic will increase the vehicle/pedestrian conflicts near Flower Mound Elementary and the residential houses fronting the existing eastern segment.

**Commercial Connector**

In areas of intense retail development, as there is at the intersection of FM 2499 and FM 407, it is important to separate the local trips

### To/From Suburbs North of Flower Mound

As the areas north of Flower Mound develop and build out, Flower Mound will have an increase in trips on its regional thoroughfares, especially FM 2499 and FM 407.

#### Recommendation

To provide an alternative route to suburbs to the north, it is recommended that Flower Mound coordinate with their neighbors to expand Shiloh Rd. from a low-speed rural collector with sharp turns to a four-lane divided roadway built to thoroughfare standards.

### US 377

As the northwest side of the Metroplex continues to add residents and employment, US 377 will see a drastic increase in traffic volume. Recent traffic counts show 15,700 daily vehicles south of FM 1171, however the 2030 modeled volume forecasts approximately 50,000 daily vehicles.

North of FM 1171, the modeled volume drops to approximately 21,000 daily vehicles. While this volume only warrants a four-lane divided arterial, the density of future development in Flower Mound and to the north has potential to vary greatly.

#### Recommendation

With a high volume of traffic forecasted for all legs of the intersection US 377 and FM 1171, one of the intersecting roadways should be considered for a grade-separation. A grade of 5% (for flat land) would require 400 feet on both sides of the intersection to elevate one roadway over the other. The Union Pacific rail line is approximately 2,500 feet west of the intersection. It would require only 600 feet on both sides to elevate FM 1171 over the rail line,

so its grade separation should not influence the grade-separation of US 377 and FM 1171. Access to the adjacent properties and intersecting roadways should be the deciding factor for which roadway to elevate.

North of FM 1171, right-of-way should be preserved for an ultimate six-lane section, but should expand as warranted by traffic volumes.

#### Conclusion

The updated Master Thoroughfare Plan is shown in **Figure 10**. Even with the roadway improvements needed to complete the MTP (listed in **Table 5**) significant deficiencies are forecasted. Consideration of “thoroughfare only” improvements will not provide the total mobility solution. Other modes of travel must be investigated to create cost-effective solutions to the mobility issues in the Town. A “Multimodal Toolbox” has been created as a solution to this multi-faceted issue.

Roadway	Improvement	From	To
Timbercreek Rd.	Expand from 2- to 4-lane undivided	Kirkpatrick Rd.	Glen Hollow Ln.
Chinn Chapel Rd.	Expand from 2- to 4-lane undivided	Waketon Rd.	FM 407
Shiloh Rd.	Expand from 2- to 4-lane divided	FM 1171	North Town Limit
Dixon Ln.	Expand from 2- to 4-lane divided	Chinn Chapel Rd.	Crestside Dr.
FM 407	Expand from 2- to 4-lane divided	West Town Limit	Briarhill Blvd.
US 377	Expand from 2- to 6-lane divided	South Town Limit	North Town Limit
Windsor Dr.	New Construction - 2 lanes	W. Windsor Dr.	FM 2499
Lonebuck Rd.	New Construction - 2 lanes	Kirkpatrick Rd.	Valley Ridge Blvd.
Unnamed	New Construction - various	Western Flower Mound	

Table 5: Improvements Needed to Complete MTP