



Traffic Analysis Summary for Combination of Andover and Lahser High Schools

Bloomfield Hills Schools
Board of Education
Bloomfield Hills, Michigan
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Bloomfield Hills Schools is considering combining Andover and Lahser High Schools

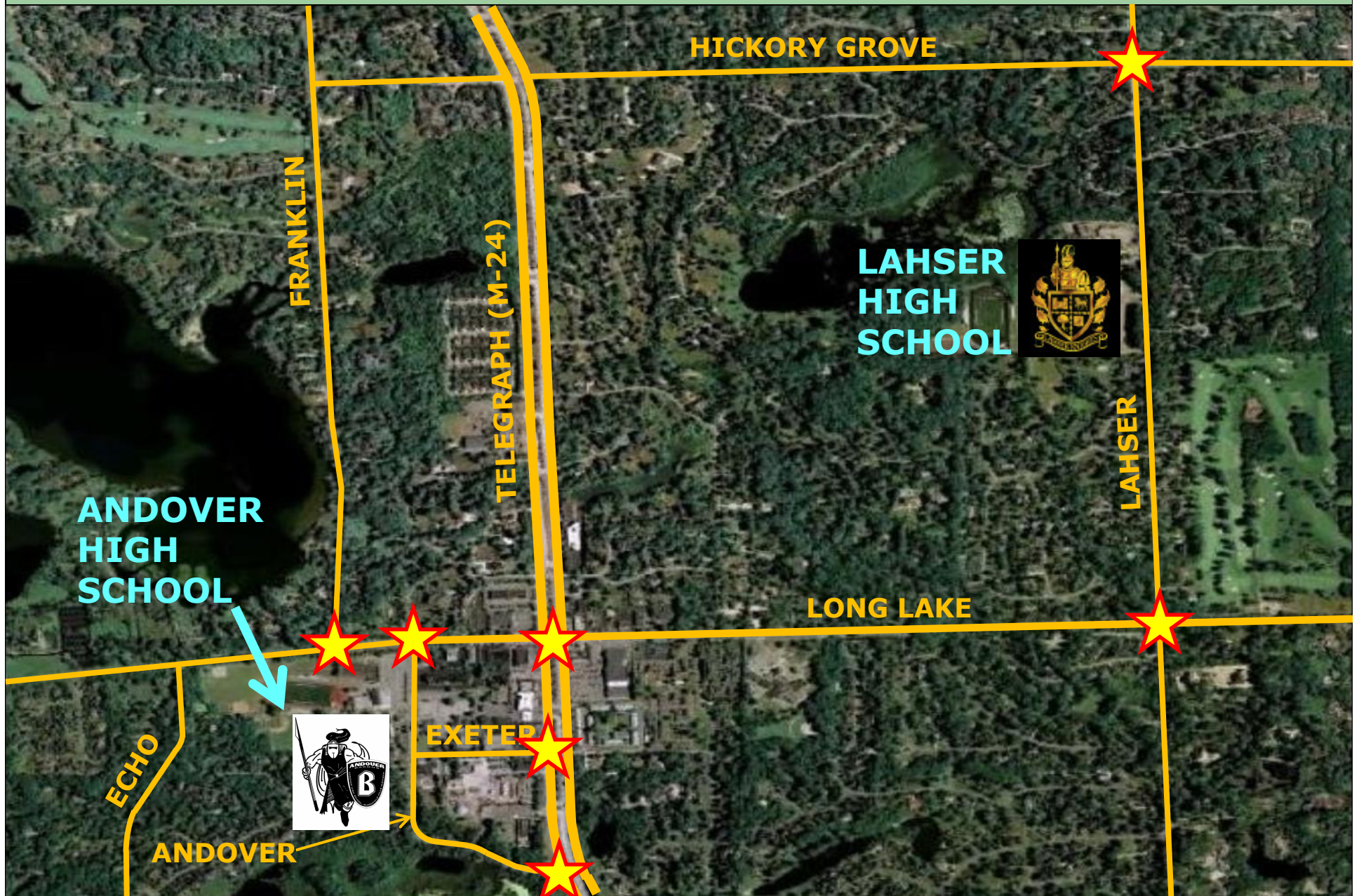
- Two options for school combination
 - Lahser Site
 - Andover Site

- Evaluate the traffic implications of each option
 - Off-site intersections
 - Mitigation necessary to operate properly
 - Parking and traffic circulation

- Existing traffic conditions
- Determine peak period traffic for each school
- Re-assign trips for each school combination option
- Analyze future traffic operations for each combination option
- Identify road improvements and/or traffic management plans
- Recommend preferred site based on study results
- Develop a site layout for the preferred site



STUDY INTERSECTIONS



- Peak hours of school traffic operations were identified
 - AM Peak Hour (6:45 AM to 7:45 AM)
 - PM Peak Hour (2:00 PM to 3:00 PM)
- Traffic counts collected in May 2010, 2004, and historical traffic data from SEMCOG were used to establish existing traffic volumes
- Traffic conditions were analyzed using Synchro and SimTraffic software

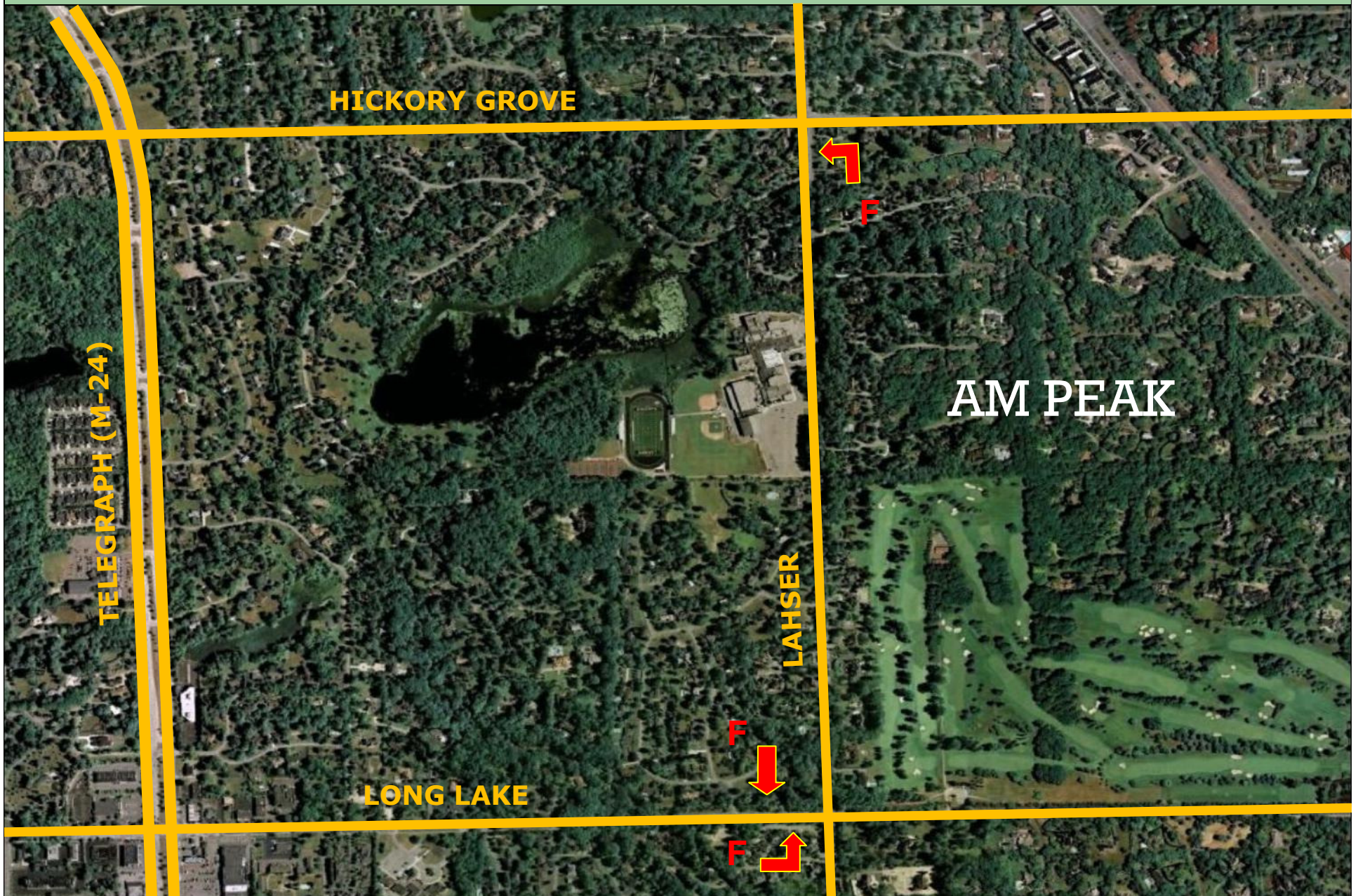
- All intersection approaches operate acceptably during the AM and PM peak hours
 - Intersection of Long Lake and Lahser operates near capacity
- Two movements operate unacceptably
 - SB Franklin LT at Long Lake during AM (LOS E)
 - NB Lahser LT at Long Lake during PM (LOS F)

- Peak hour traffic volumes were re-assigned to the road network for both site options
- Re-assignment was based on:
 - Existing traffic patterns
 - School District boundaries
 - Available routes
- SEMCOG data indicates no significant background traffic growth from 2010 to 2013

- Study intersections adjacent to the Andover site operate acceptably
- Intersection of Lahser and Long Lake fails (LOS F) during the AM and PM peak hours
 - Extensive EB and SB queues during the AM peak hour
 - Failure of 3 approaches during the PM peak hour
- NB approach of Lahser at Hickory Grove fails during the AM peak hour
 - Minor improvements can improve this operation

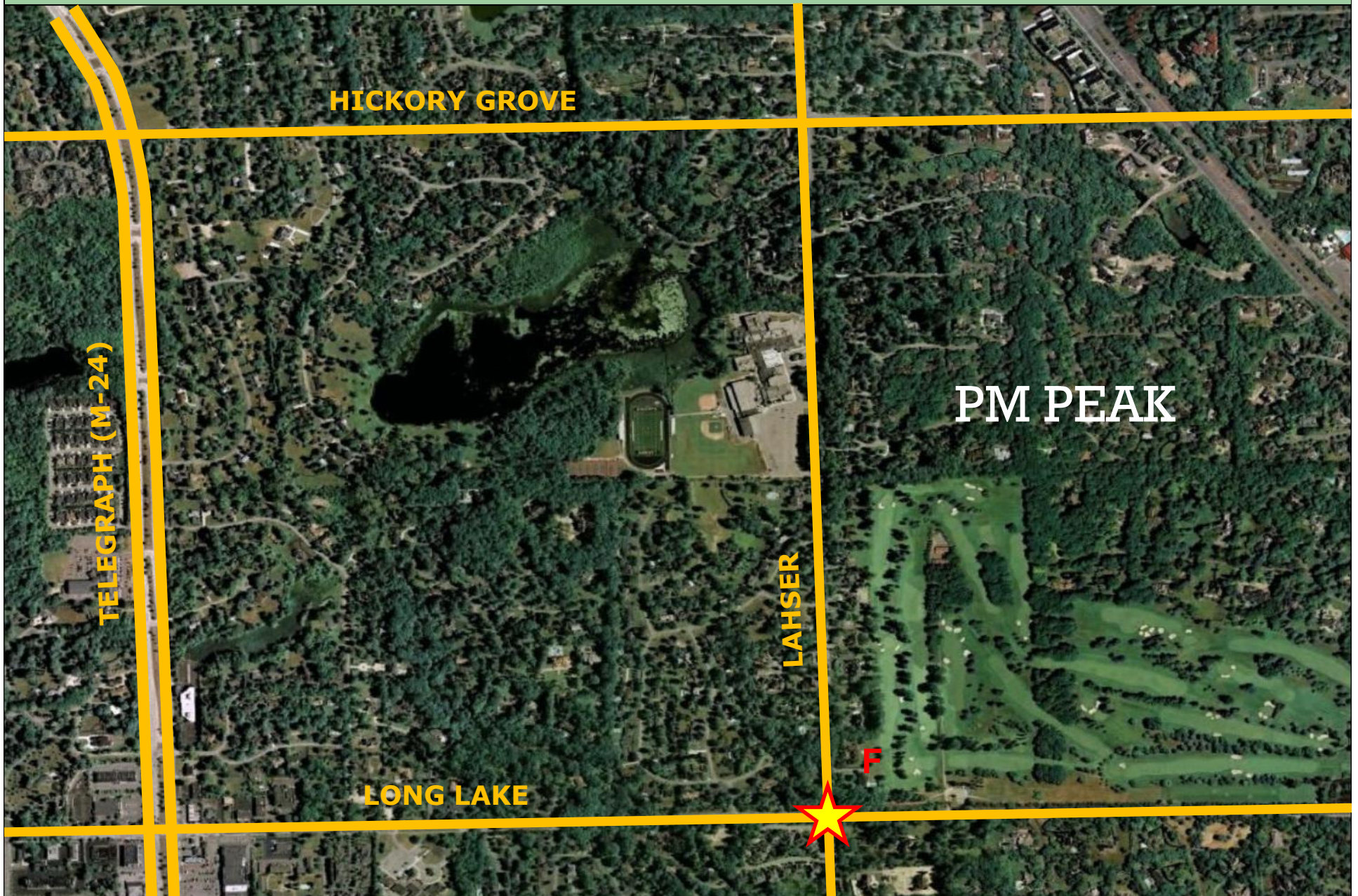


FUTURE CONDITIONS – LAHSER SITE





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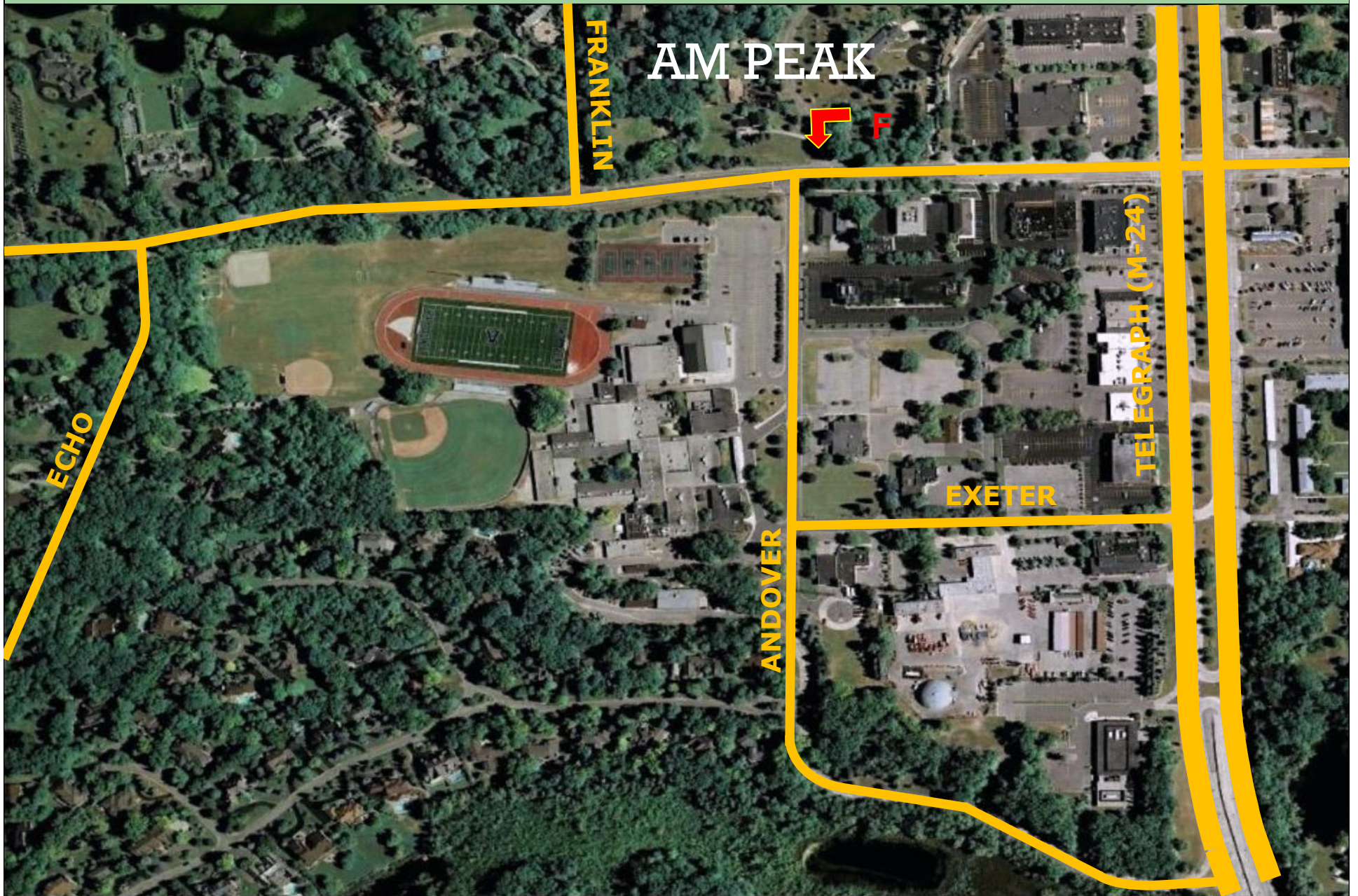


- Necessary improvements (i.e. additional lanes) not feasible at Long Lake and Lahser
 - Significant approach grades
 - Limited Right-of-Way
- Possible Traffic Management Plan (TMP) to control directions of travel
 - Redirect approximately 300 vehicles to enter Lahser HS from the north
 - Would require driving 1.5 more miles to reach school
 - Not enough capacity available at Lahser and Hickory Grove to accommodate this redirection
 - Can control students via permits, but parents may be opposed to inconvenience in pick-up and drop-off
 - Therefore, TMP is not feasible

- All off-site study intersection approaches operate acceptably during the AM peak hour
 - NB LT at Lahser and Long Lake operates at a LOS F
- During the AM peak hour, the WB LT at Long Lake and Andover fails
 - Extensive WB queues spill back to Telegraph (US-24)
- All study intersection approaches operate acceptably during the PM peak hour
 - NB LT at Lahser and Long Lake operates at a LOS E



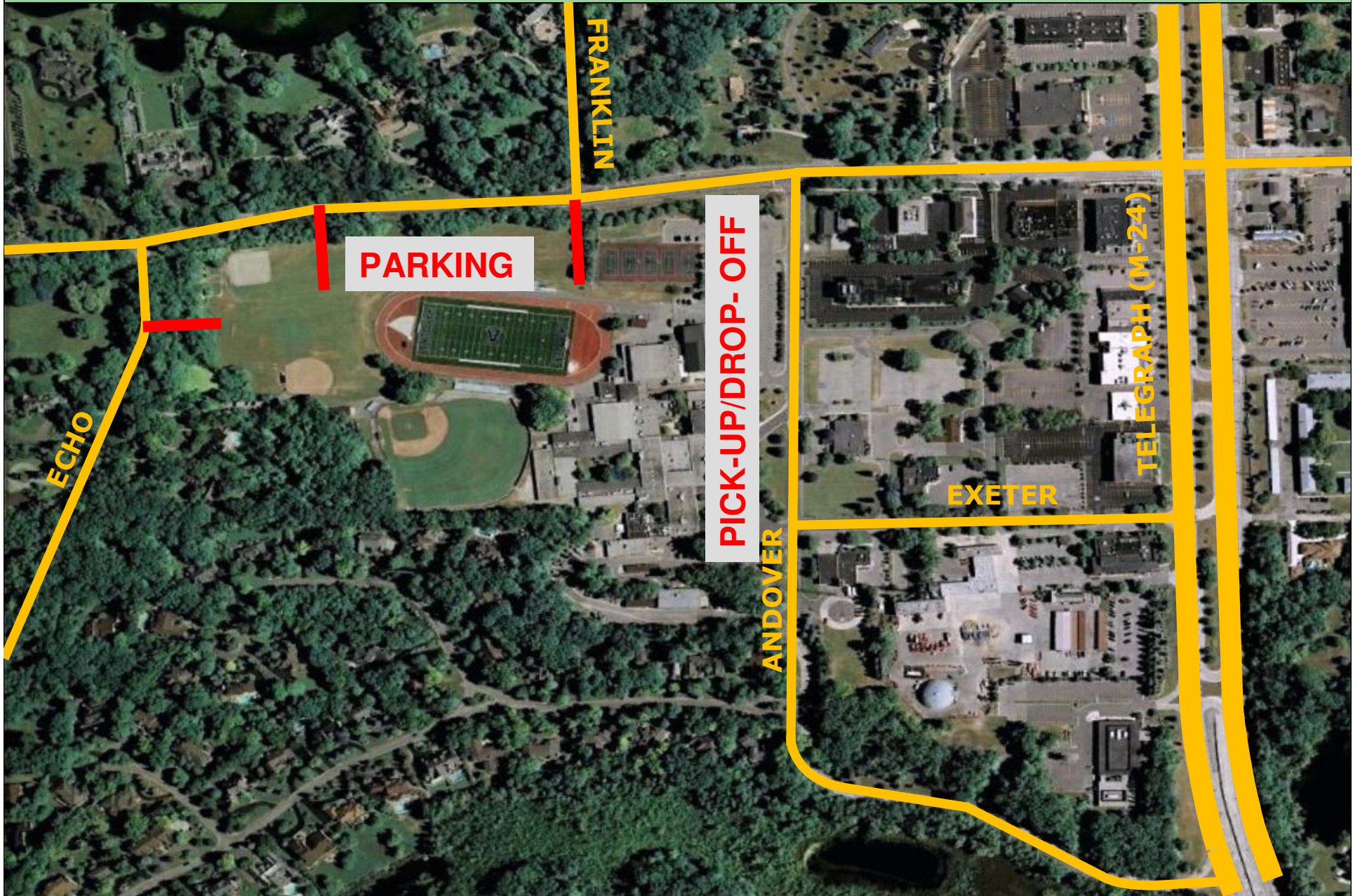
FUTURE CONDITIONS – ANDOVER SITE



- Site access and traffic operations can be improved to accommodate future school traffic
- Create a second access point to Long Lake
 - At Franklin, Echo, or between
- Separate parking operations from bus and parent pick-up / drop-off operations
 - Increase parking supply to accommodate future school population and parking demand
 - Create a pick-up / drop off area with one-way circulation and adequate curb space



IMPROVEMENTS – ANDOVER SITE



- Lahser HS has significant constraints regarding traffic operations
 - The intersections of Lahser with Long Lake and Hickory Grove can not accommodate shift of Andover traffic
 - Improvements to accommodate future traffic volumes would be costly and likely not feasible
 - Would require detailed long-term traffic management
- Andover HS can be improved and operate acceptably
 - Create a second access point to Long Lake
 - Separate parking from bus and pick-up / drop-off operations
 - These improvements are on-site and would coincide with the overall site improvement plan