



Randall Road Improvements Study

Community Advisory Council

Meeting #5

October 10, 2007

9:30 am

Lake in the Hills Village Hall

600 Harvest Gate

Lake in the Hills, IL



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Agenda for Meeting #5

- Introductions
- Approval of September 12, 2007 Meeting Notes
- Summary of CAC Meeting #4
- Brainstorming Session Continuation: Identifying Alternative Options
 - Congestion Management System Options
 - Revisit/Enhance Improvement Options identified at last CAC Meeting
- Focus for CAC Meeting #6 on November 14, 2007



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Introductions

- Modify membership list as required to account for:
 - Incorrect or outdated information
 - Changes in Representation
 - New members



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Comments to Meeting Notes?

- Discussion of CAC #4 meeting notes
 - Approval of CAC #4 meeting notes



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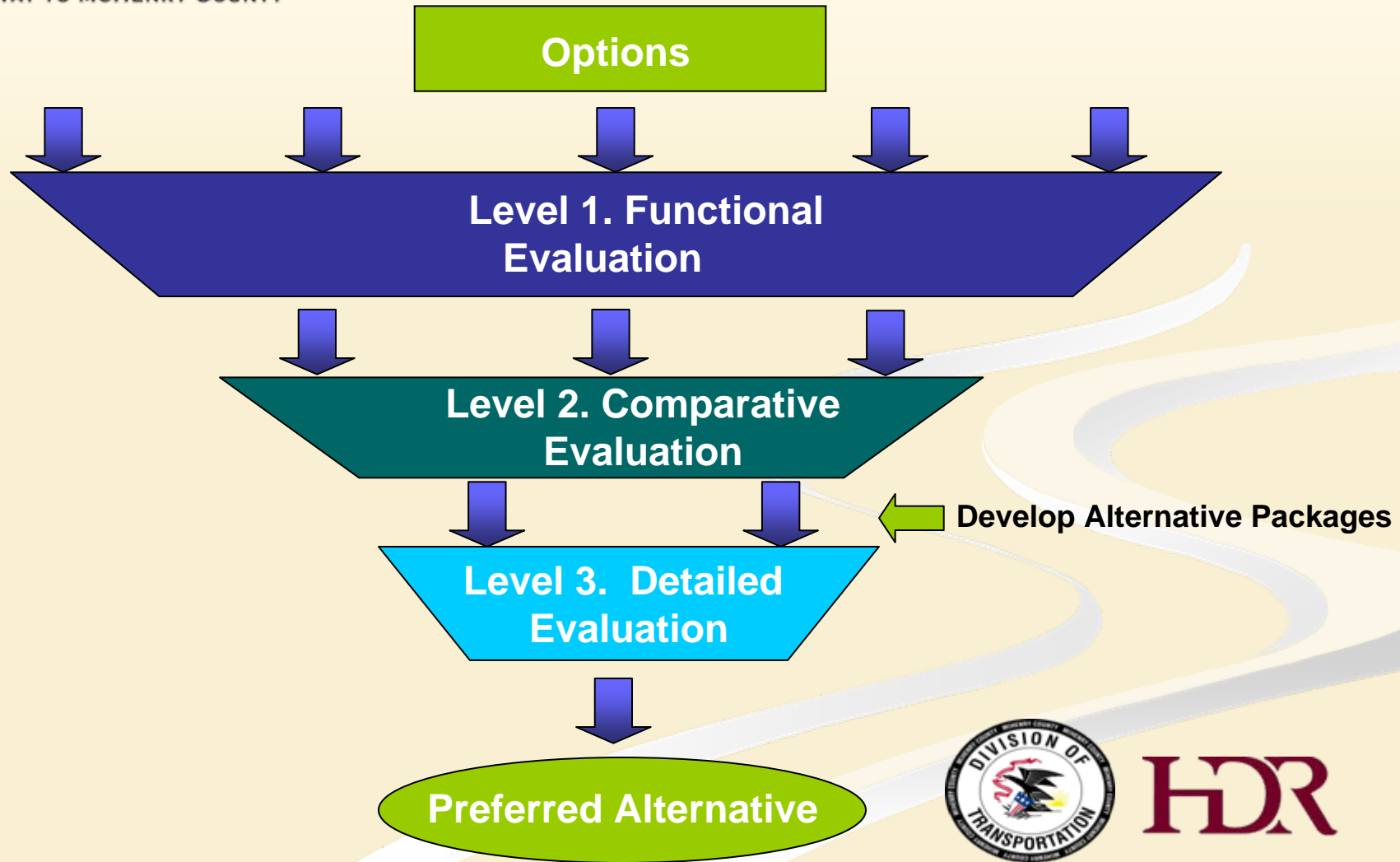


Summary of CAC Meeting #4

- Reviewed Purpose and Need and 3-Level Evaluation Process
- Finalized/Approved Evaluation Criteria
- Brainstormed Improvement Options
 - Arterial Options
 - Intersection Options
 - Pedestrian/Bicycle Options



Evaluation Process





Brainstorming Session Continuation

■ Keep in mind:

- Planning horizon is approximately 30 years (2030)
- Options will be subject to design criteria set by state and local agencies (SRA Guidelines)
- Think outside the box, there are no bad ideas
- Be specific, may be grouped later
- Use corridor familiarity, critical issues, and Context Audit results
- Bring your constituency and point of view to the table





Congestion Management System (CMS) Improvement Options

- According to the Federal Register (December 19, 1996), an effective congestion management system is:
 - "a systematic process for managing congestion that provides information on transportation system performance and on alternative strategies for alleviating congestion and enhancing the mobility of persons and goods..."
- Options should be corridor-based
- Examples:
 - Traffic signal preemption for transit and emergency vehicles
 - ITS elements – variable/dynamic message signs
 - Transportation System Management (TSM)/Transportation Demand Management (TDM)





Potential CMS Improvement Options

- Provide shuttle service during peak shopping time.
- Provide a Park and Ride facility in the southeast quadrant of the intersection between Randall Road and Ackman Road or in the northwest quadrant of the intersection between Randall Road and Miller Road.
- Provide Dynamic Message Signs – located for drivers to use alternate routes such as Rakow Road to IL Route 31 (SB) and Algonquin to Pyott Road (NB) in case of accidents or other road conditions causing extreme delays.
- Provide HAR (Highway Advisory Radio).
- Provide Accident Investigation sites.
- Provide traffic signal priority for express lanes.
- Provide emergency pre-emption.
- Provide bus/transit pre-emption/traffic signal priority.
- Continue to optimize traffic signal timing along Randall Road.
- Restrict turning movements during peak hours.



Arterial Improvement Options

- Includes improvement options having to do with the Randall Road Corridor (for example: lane additions, bus lanes, frontage roads, or access points/driveways, etc.)



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Potential Arterial Improvement Options

- Keep four lanes along the mainline
- Construct six lanes along the mainline
- Construct eight lanes along the mainline
- Keep four lanes along the mainline, add a center bi-directional turning lane
- Construct six lanes along the mainline, add a seventh lane in the center as a bi-directional turning lane
- Keep four lanes (mainline) with a Frontage Road* (possibly from Algonquin to Carpentersville or close section between Bunker Hill and Algonquin Road, so that Frontage Road is accessed and utilized).
- Construct six lanes (mainline) with a Frontage Road* (possibly from Algonquin to Carpentersville or close section between Bunker Hill and Algonquin Road, so that Frontage Road is accessed and utilized).
- Construct four-lane express lanes using C-D Roads (similar to Palatine).
- Construct six-lane express lanes using C-D Roads (similar to Palatine).

Orange text indicates that the option was identified through public comment.



Potential Arterial Improvement Options, Cont'd

- Construct six lanes along the mainline with a dedicated HOV/Bus/Shuttle Lane.
- Construct five lanes along the mainline with one lane being a reversible express lane.
- Construct six lanes along the mainline with one lane being a reversible express lane.
- Enhance parallel corridors (similar to Kane County - Square Barn Road, Tyrrell Road and Peck Road, west of Randall Road, Other(?)) and keep Randall with four lanes (mainline).
- Enhance parallel corridors (similar to Kane County - Square Barn Road, Tyrrell Road and Peck Road, west of Randall Road, Other(?)) and keep Randall with four lanes (mainline) and add a fifth lane as a bi-directional turning lane.
- Construct express lanes using a double-deck structure (local lanes at-grade, express lanes elevated (similar to Wacker Drive)).



Palatine Road Video

Please refer to “Palatine Road_0001.wmv” video





Intersection Improvement Options

- Includes options having to do with intersections (signalized, un-signalized) along Randall Road
- There are 7 signalized intersections, 5 two-way stop controlled intersections, and 12 other access points along Randall Road – be specific.



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Potential Arterial Improvement Options

General Intersection Improvements

- Provide acceleration/deceleration lanes at access points.
- Reduce/manage/consolidate access along Randall Road (especially non-signalized intersections such as right-in/right-out locations).
- Eliminate full access for intersections that do not have traffic signals.
- Add capacity on side streets for turning lanes.
- Eliminate turning movements during peak hours.
- Allow free flow conditions for right-turn lanes and provide large acceleration lanes.
- Investigate opportunity to use Paired Intersections.
- Investigate access for express lanes.

Blue text indicates that the option was identified by the consultant team.



Potential Arterial Improvement Options, Cont'd

Algonquin Road

- Single point urban interchange (SPUI).
- Roundabout.
- Michigan Lefts (Median U-Turn) option (either on Randall Road or along minor road).
- Evaluate the Surgery Center access off of Algonquin Road (possibility for realignment, easier connection of frontage roads).
- Continuous flow intersection (CFI).
- Tight diamond interchange.
- Grade-separated intersection (through lanes over with local lanes intersecting).
- Construct additional turn lanes (specifically northbound left turns).
- Super Street intersection.



Potential Arterial Improvement Options, Cont'd

Bunker Hill Road/Huntington Drive*

- Construct exclusive right turn only lanes.
- Add turn lanes along Huntington Drive.
- Eliminate Access.

*Note: The Village of Algonquin is in the process of locating funding for improvements to this intersection

Stonegate Drive

- Allow a right-in/right-out only at its intersection with Randall.
- Grade-separate the intersection with Randall.
- Install a traffic signal.
- Eliminate access.



Potential Arterial Improvement Options, Cont'd

Acorn Lane/Polaris Drive/Harvest Gate

- Auxiliary Lane connecting to Algonquin Road.
- Tight diamond interchange.
- Construct a SPUI.
- Convert intersection to a multi-lane roundabout.
- Eliminate Access.

Miller Road

- Construct additional exclusive turn lanes.
- Construct a tight diamond interchange.
- Construct a SPUI.
- Convert intersection to a roundabout.
- Eliminate Access.



Potential Arterial Improvement Options, Cont'd

Village Road

- Install a traffic signal.
- Close/eliminate access at Village road and divert traffic on Carlemont Drive to Angela Lane and extend Carlemont Drive to Miller Road.

Angela Lane

- Install traffic signal.
- Construct additional exclusive turn lanes.
- Convert to a full-access intersection.
- Eliminate Access.

Alexandra Boulevard

- Close/eliminate access at Alexandra Boulevard and divert traffic on Carlemont Drive to Angela Lane/Skyridge Drive to Ackman Road.
- Install a traffic signal.
- Convert to a full-access intersection.



Unconventional Intersections/Interchanges

- **Tight Diamond**
- **Single Point Urban Interchange, SPUI**
- **Continuous Flow Interchange, CFI**
- **Michigan Lefts (Median U-Turn)**
- **Super Street**
- **Paired Intersections**
- **Modern Roundabout**



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Tight Diamond Interchange

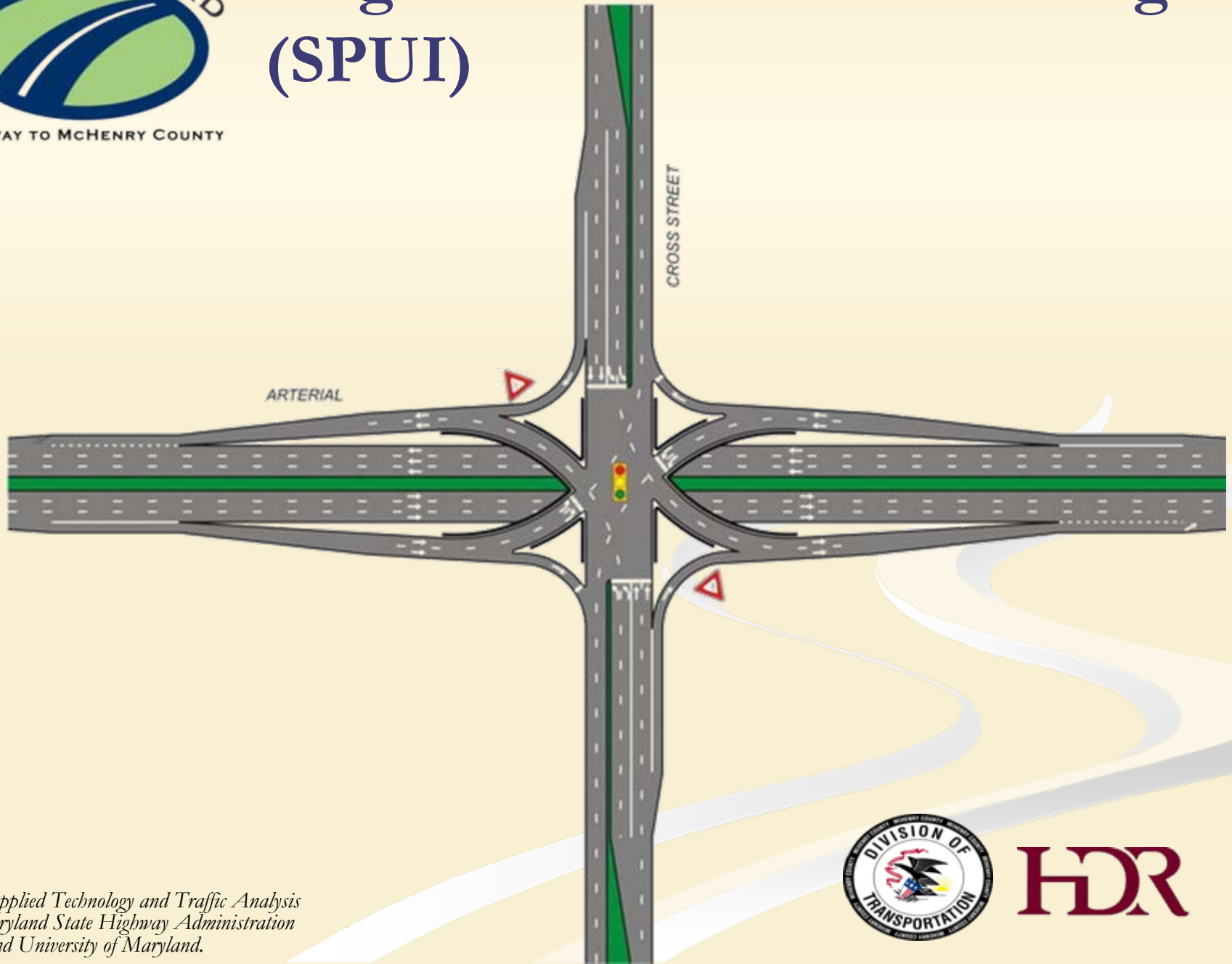


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Source: An Applied Technology and Traffic Analysis Program, Maryland State Highway Administration and University of Maryland.



Single Point Urban Interchange (SPUI)



Source: *An Applied Technology and Traffic Analysis Program*, Maryland State Highway Administration and University of Maryland.



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Continuous Flow Intersection (CFI)



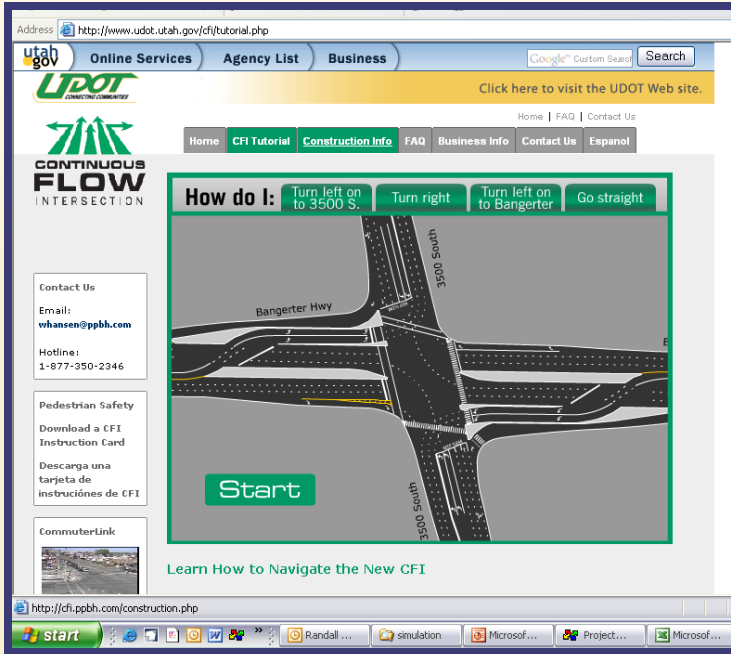
Source: *An Applied Technology and Traffic Analysis Program*, Maryland State Highway Administration and University of Maryland.





Continuous Flow Intersection (CFI)

Utah DOT CFI website: Shows how to navigate through the intersection and how to cross the intersection as a pedestrian. For more information see www.udot.utah.gov/cfi



CFI in Mexico





Michigan Lefts (Median U-Turn)



Source: *An Applied Technology and Traffic Analysis Program*, Maryland State Highway Administration and University of Maryland.



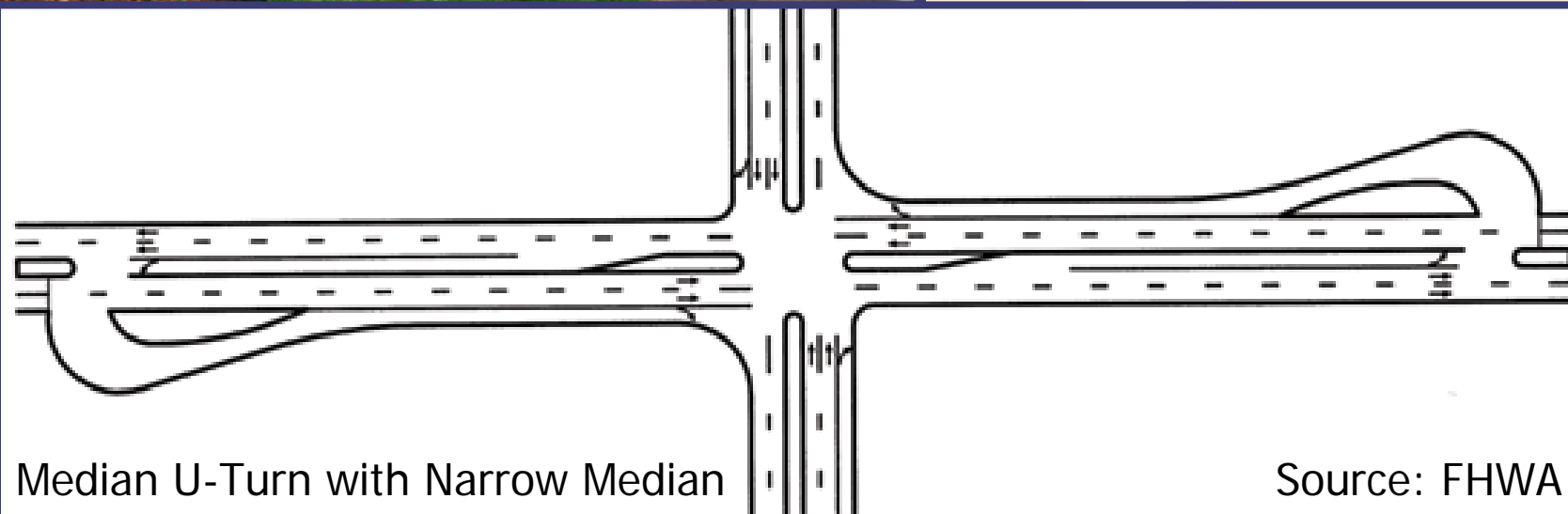
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Michigan Lefts

(Median U-Turn)

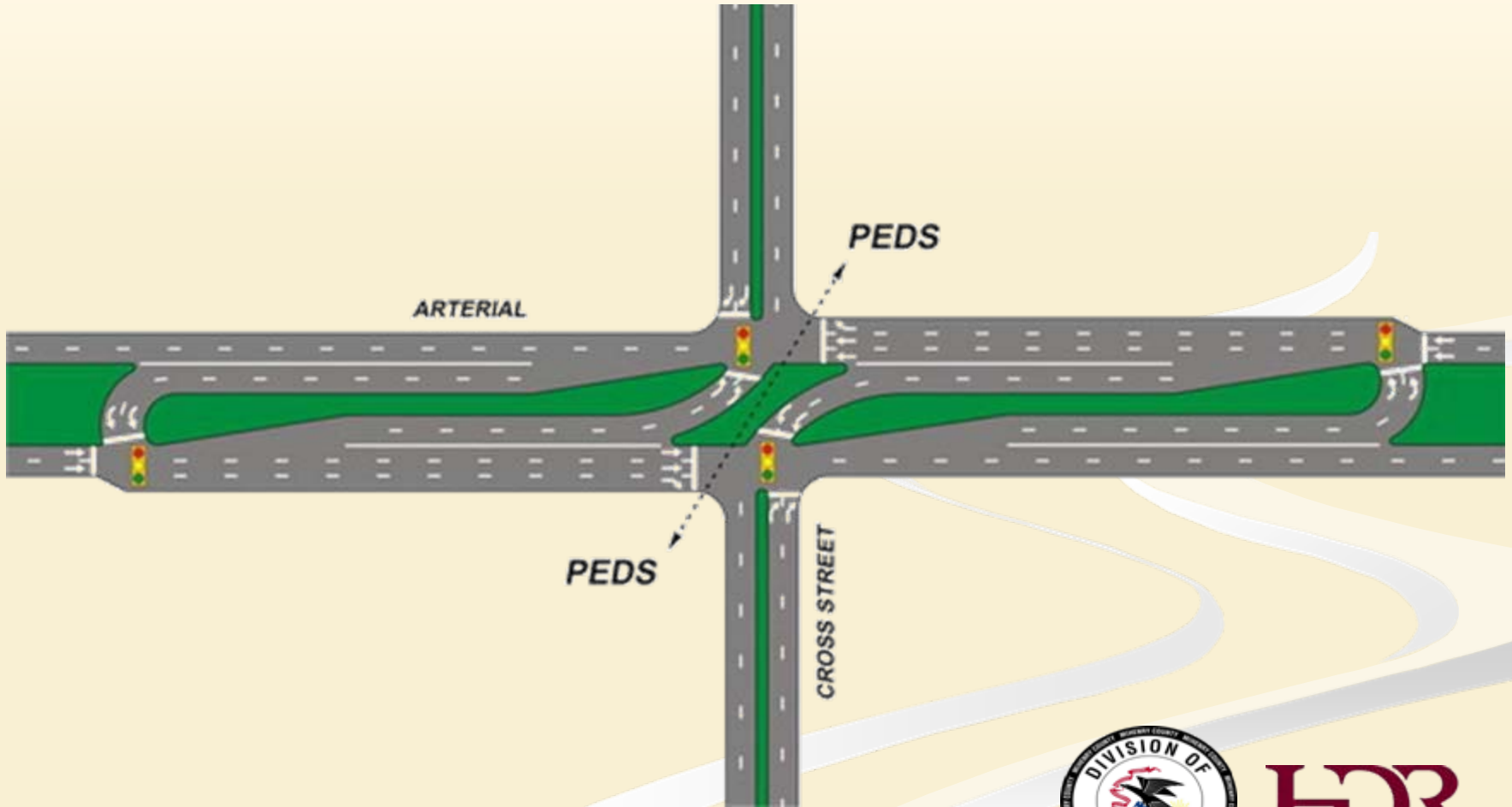


Median U-Turn with Narrow Median

Source: FHWA



Super Street Intersection



Source: An Applied Technology and Traffic Analysis Program, Maryland State Highway Administration and University of Maryland.





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Super Street Intersection





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Paired Intersections



Source: *An Applied Technology and Traffic Analysis Program*, Maryland State Highway Administration and University of Maryland.



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Paired Intersections



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Modern Roundabout



Source: *An Applied Technology and Traffic Analysis Program*, Maryland State Highway Administration and University of Maryland.





Modern Roundabout



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Pedestrian/Bicycle Improvement Options

- Includes improvement options having to do with pedestrian/bicycle mobility (paths, trails, intersection improvements, grade-separations)



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Potential Pedestrian/Bicycle Improvement Options

Bike and Pedestrian Trails, Paths, and other Facilities

- Provide a trail connection to Prairie Trail – north of Acorn Lane (potential location of Hawk Signal).
- Provide a dedicated bicycle lane along Randall Road.
- Add a bicycle lane in median as its own individual lane along Randall and minor roads.
- Allow pedestrians to cut-through residential and commercial lots in order to by-pass Randall.
- Improve pedestrian circulation within business areas.
- Provide sidewalks along both sides of Randall Road from residential to commercial areas. (Schaumburg is a good example).
- Provide bicycle parking facility.





Potential Pedestrian/Bicycle Improvement Options, Cont'd

Intersection Pedestrian/Bicycle Improvements

- Consider improvements to Bunker Hill Road existing pedestrian crossing including: grade-separated crossing, safety island, remove crossing.
- Install pedestrian signalization at all traffic signals.
- Remove pedestrian signalization at all traffic signals.
- Minimize crossing distances (safety islands).
- Install Hawk Signals north of Acorn Lane. (Pedestrian actuated, off-set between north & south).
- Keep pedestrian crossings away from intersections. Potential locations include Stonegate, Lowes-Applebees, Parks-Ken Carpenter Park-Richard Taylor Park.



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Potential Pedestrian/Bicycle Improvement Options, Cont'd

Grade-Separated Crossings

- Use Woods Creek culvert to cross under Randall Road.
- Grade-separate pedestrian/bicycle crossings using tunnels or overpasses at intersections (within Lake in the Hills near Miller Road area parks, Village of Algonquin near library and Jacobs High School, and the City of Crystal Lake at Ackman near the access to Lake in the Hills Fen). Examples include Great Western Trail/Prairie Path and Palatine.
- Provide grade-separated crossing at Acorn Lane/Polaris Drive.
- Provide grade-separated crossing at Miller Road.
- Provide grade-separate crossing at Angela Lane.



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Schaumburg Trails/Paths





HAWK Ped./Bike Signals

Hohokam Middle School students use the new HAWK pedestrian signal at Camino de Oeste and Tetakusim Road. The \$300,000 project was funded by the RTA in collaboration with the Pascua Yaqui Tribe and TUSD.





Focus of CAC Meeting #6 on November 14, 2007

- Review Improvement Options
- Begin to screen options through Level 1: Functional Evaluation and potentially Level 2: Comparative Evaluation



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Questions or Comments?

- **Next CAC Meeting (#6) November 14th**
- Same Location
- Please sign-in if have not done so
- Please leave nametags behind for reuse at next meeting



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