



US 12

WISCONSIN DELLS PARKWAY

PARTNERING FOR A SAFE SOLUTION

PUBLIC ADVISORY GROUP

WORKSHOP #3

DECEMBER 12, 2012





SESSION #1

REVIEW OF NEPA PROCESS

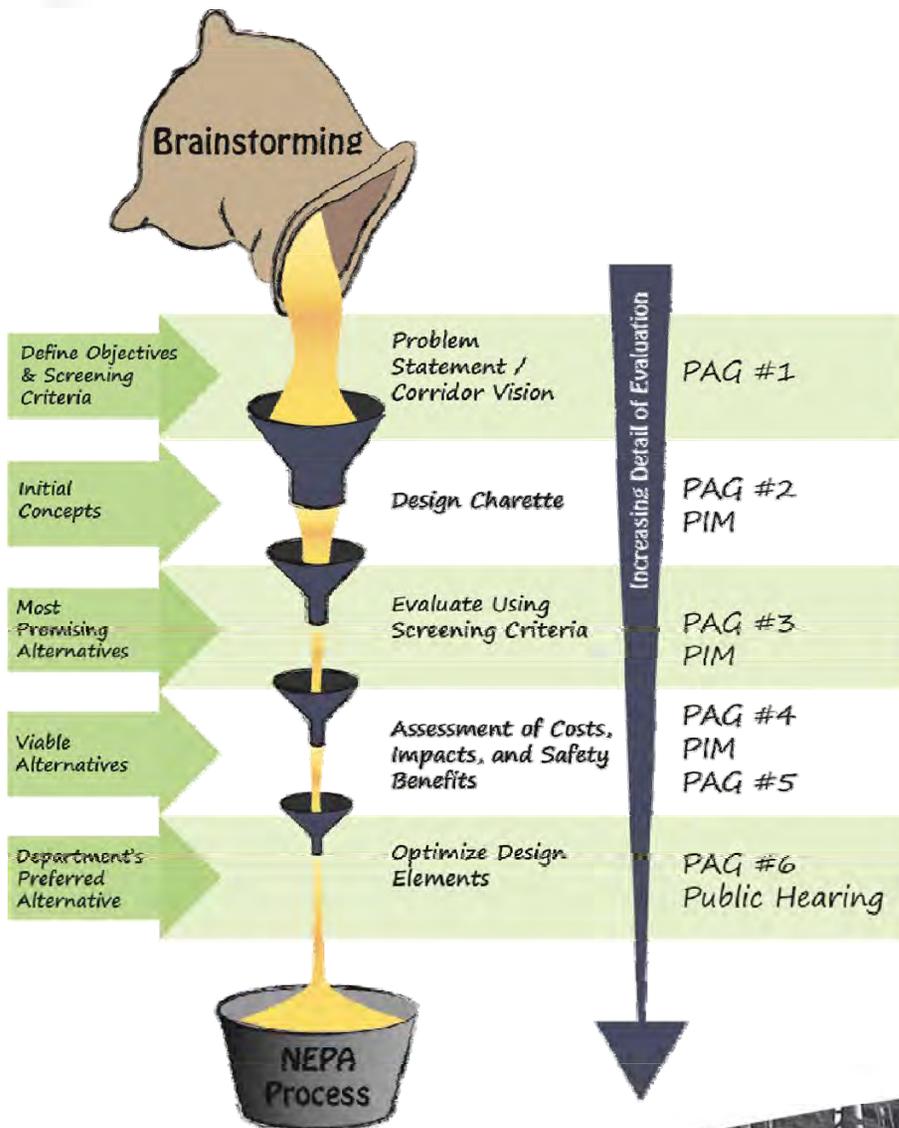
PRIORITIZATION OF VALUES FOR PROPOSED CORRIDOR

ACCESS MANAGEMENT PRESENTATION / DEMONSTRATION





Review of NEPA Process



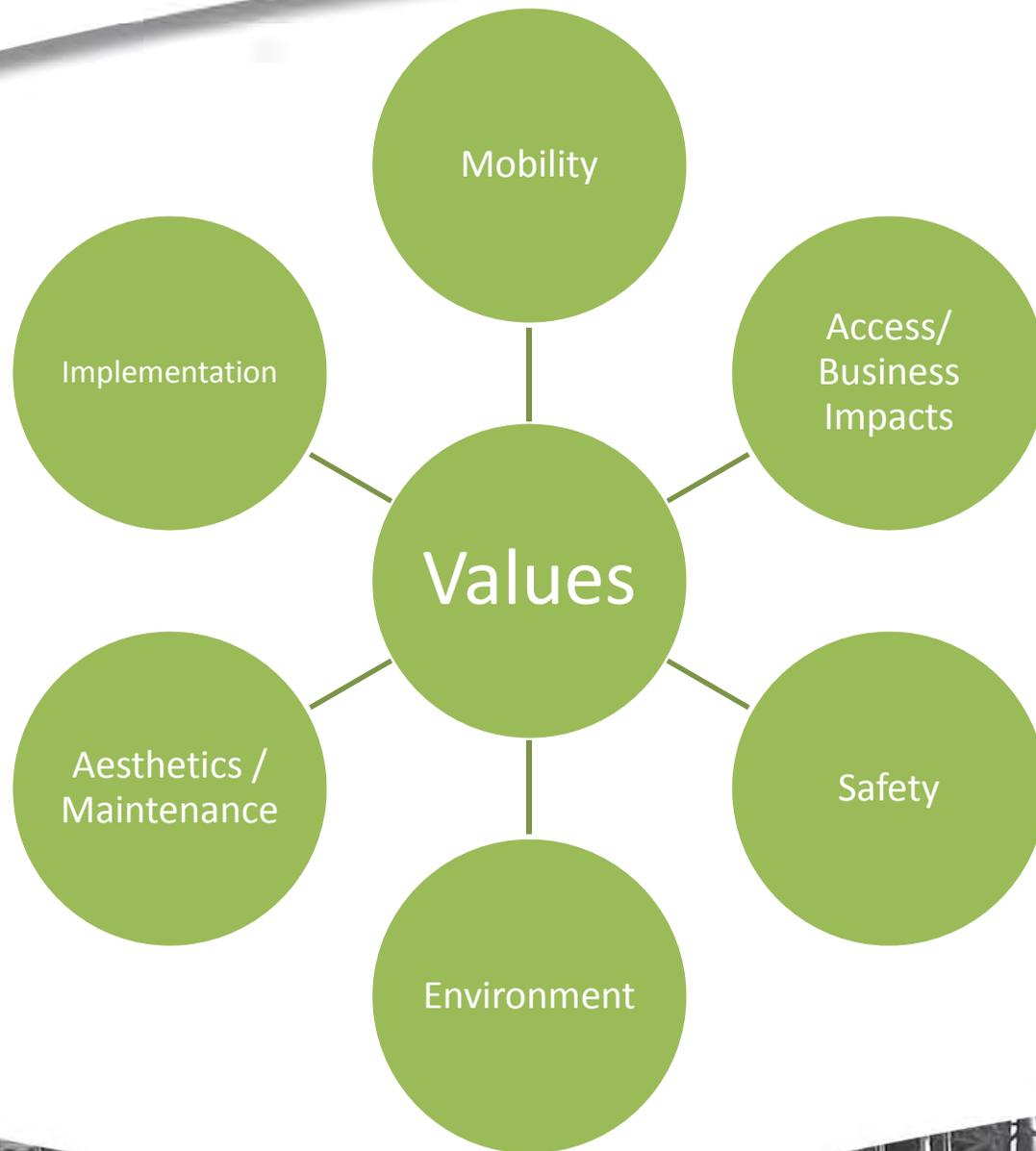


Where are we going?





Values

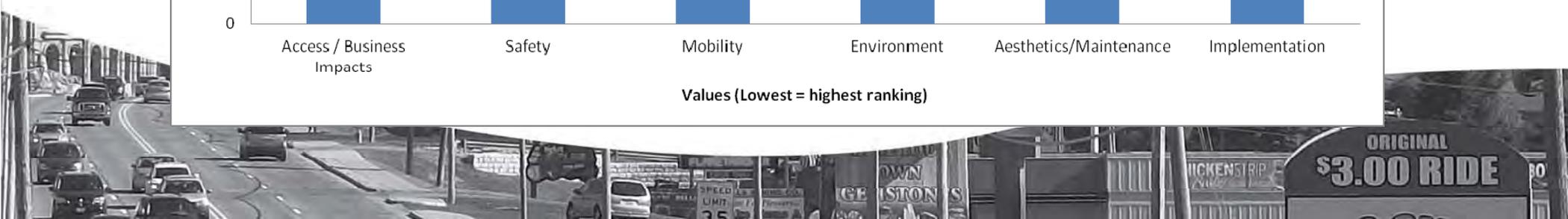
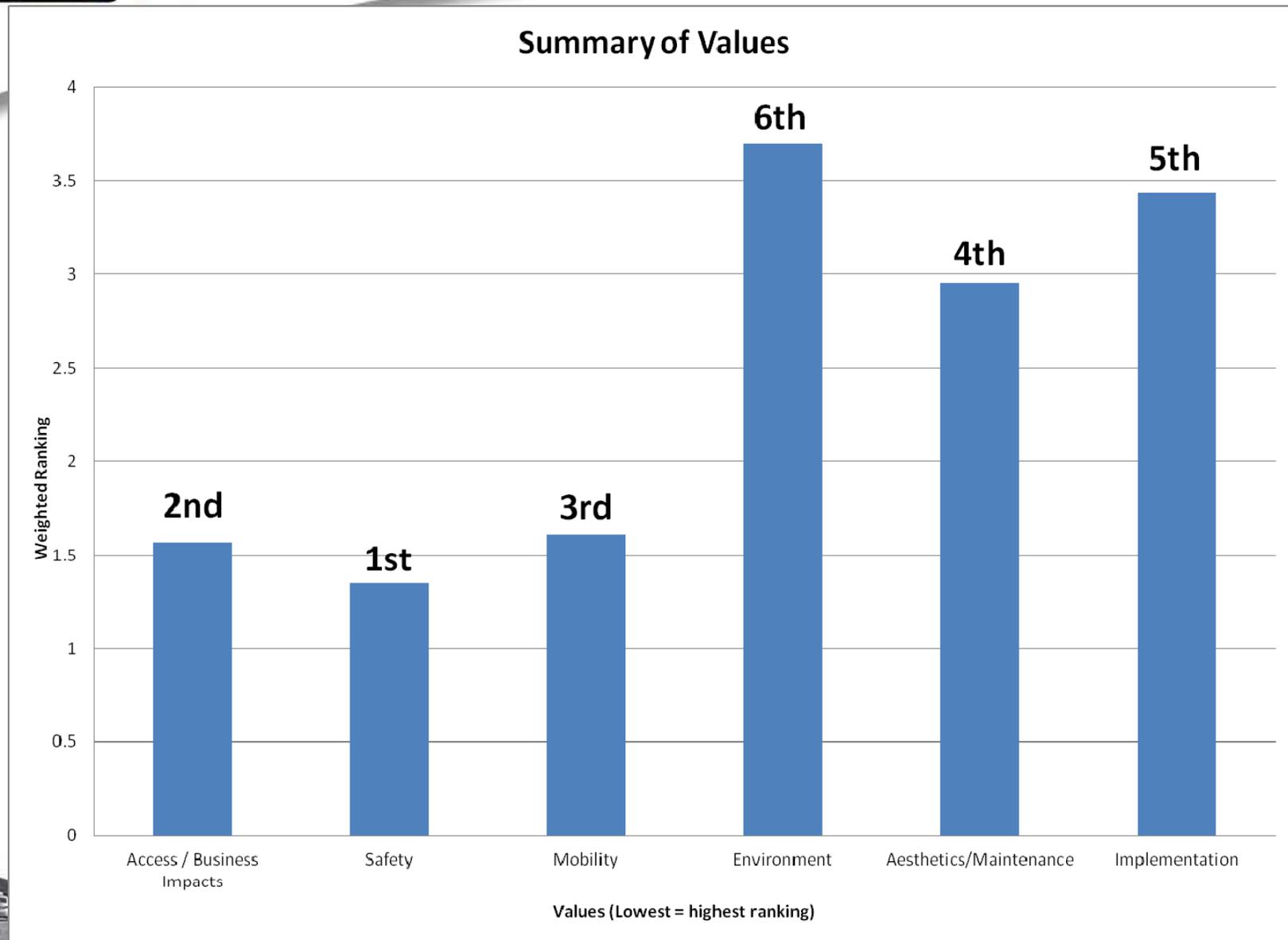




Review of Value Prioritization



Review of PAG #2 Exercise





Crash Assessment

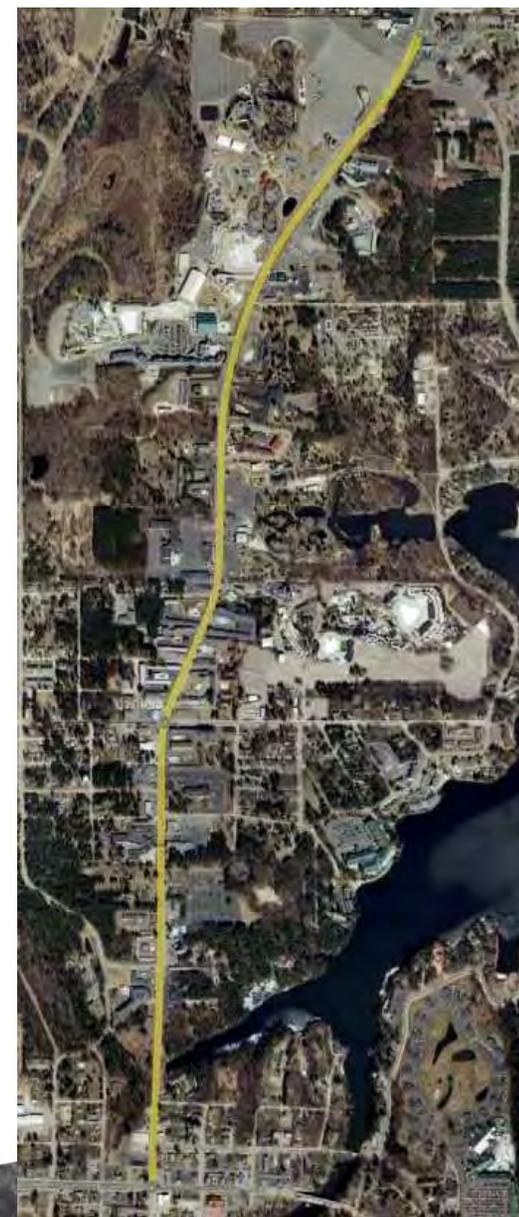


North of WIS 23 to County A (undivided section):

- Year 2005 to 2009 Total Crashes: 388
- Crash rate:
 - 506 crashes per 100 million vehicle miles (HMVM)
 - *Statewide average : 244 crashes per HMVM*
- Injury crash rate:
 - 199 injury crashes per 100 million vehicle miles (HMVM)
 - *Statewide average : 81 injury crashes per HMVM*
- Types of crashes:

○ Angle: 56	○ Pedestrian: 5
○ Rear End: 236	○ Bicycle: 18
○ Head On: 3	○ Fixed Object: 10
○ Sideswipe: 51	○ Other: 9
- Severity:
 - Property Damage Only: 235
 - Injury: 153

Note: Bicyclist fatality in 2010 & pedestrian fatality in 2011



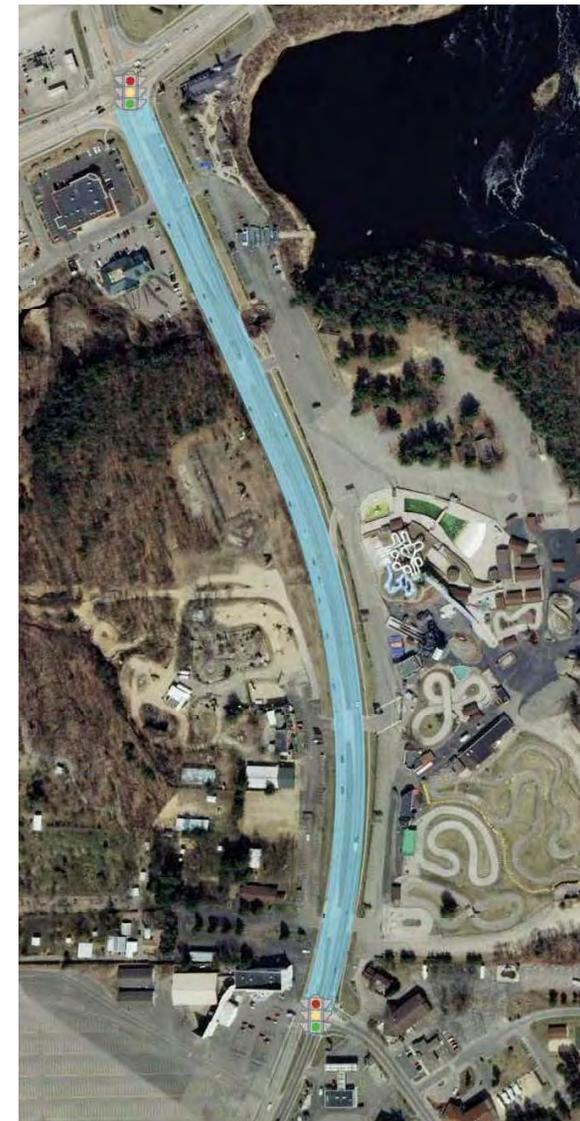


Crash Assessment



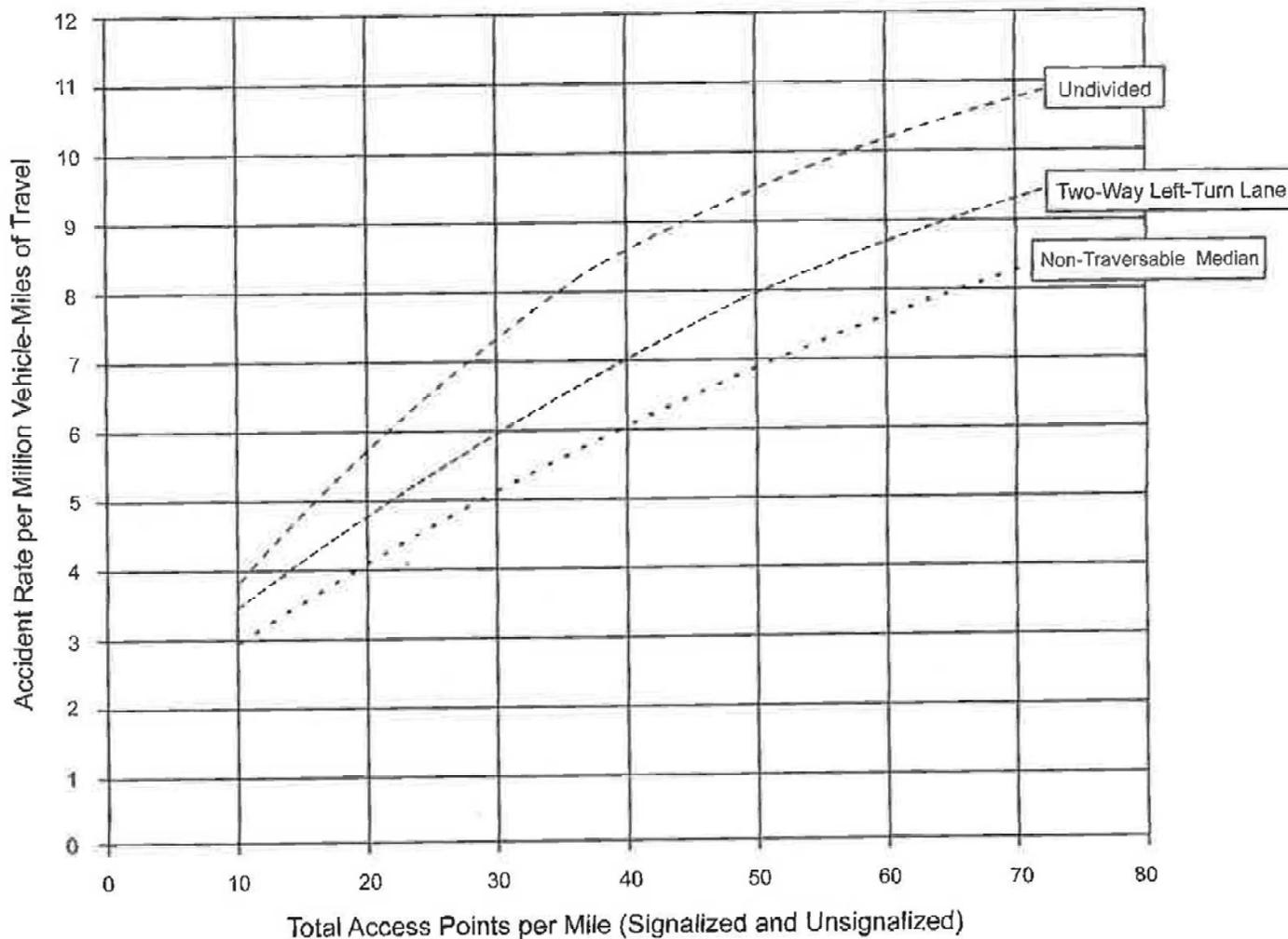
North of County A to South of WIS 13 (median divided section):

- Year 2005 to 2009 Total Crashes: 13
- Crash rate:
 - 73 crashes per 100 million vehicle miles (HMVM)
 - *Statewide average: 244 crashes per HMVM*
- Injury crash rate:
 - 17 crashes per 100 million vehicle miles (HMVM)
 - *Statewide average : 81 injury crashes per HMVM*
- Types of crashes:
 - Angle: 5
 - Rear End: 4
 - Sideswipe: 3
 - Other: 1
- Severity:
 - Property Damage Only: 10
 - Injury: 3





Crash Rate Comparison

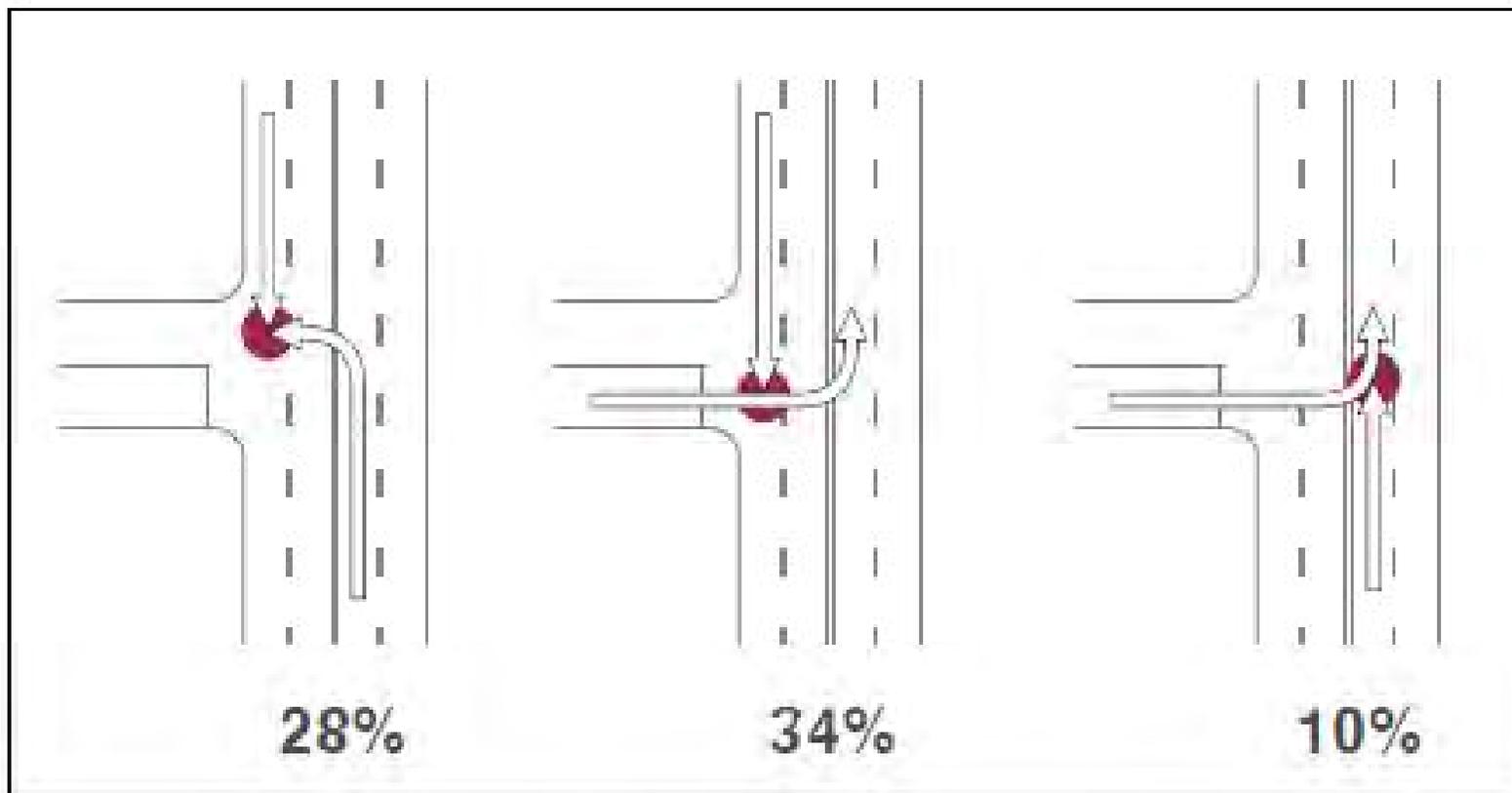




Eliminate Left-turns at Driveways



Crash Percentages for Left-turns at a Driveway



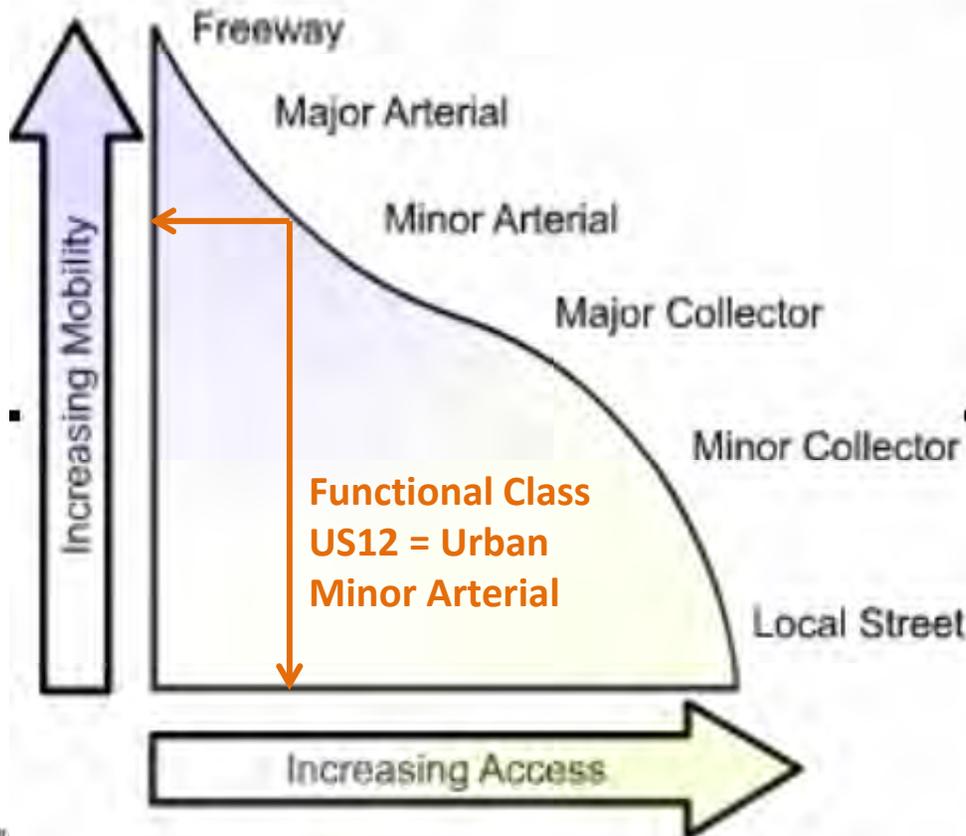


Roadway Classification



The appropriate degree of access control should be based on:

- The functional role of the roadway in the overall transportation system
- The nature of the abutting land uses
- The traffic characteristics of the roadway
- The roadway's long-term planning objectives





Roadway Classification



Proportion of Service

Arterials

Mobility



Collectors



Local Roadway

Land Access



Source: AASHTO Green Book

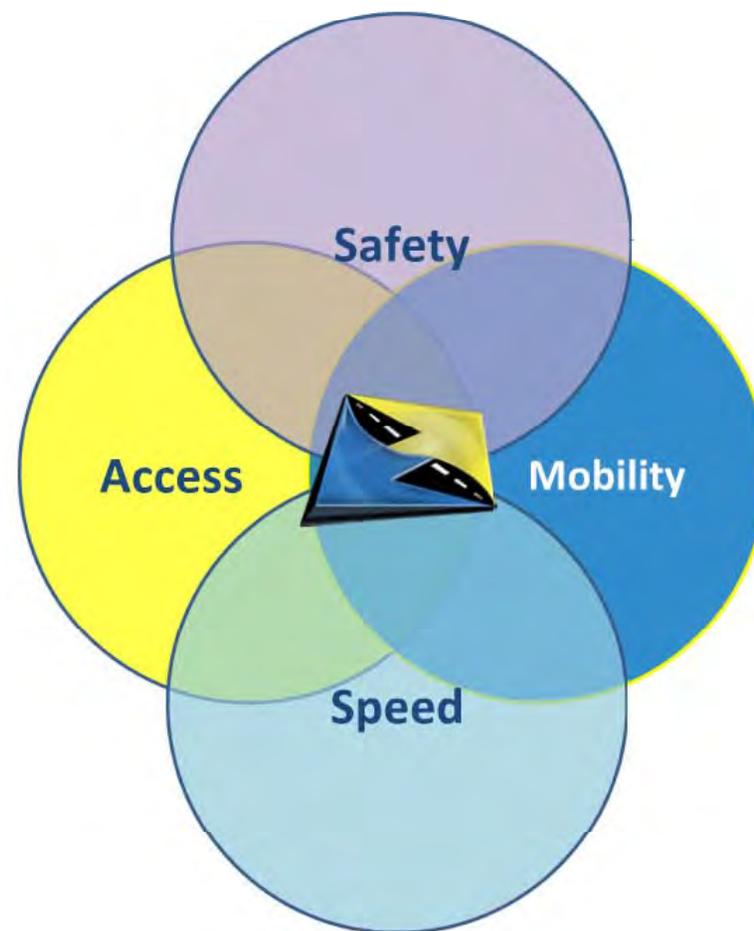




Access Management



- Included with any Improvement
- Level of Access Management depends on Alternate Selected
- Access Management will result in:
 - Safer Access
 - Safer Operations
 - Increased Business



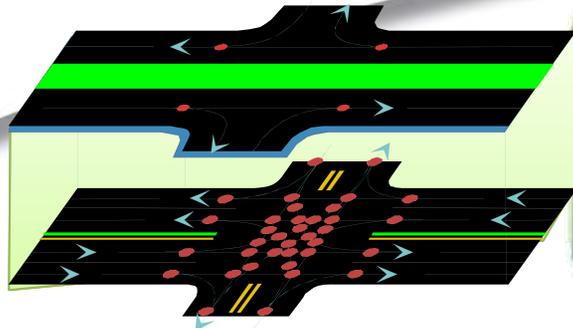


- Preserve integrity of the roadway system
- Improve safety and capacity
- Extend functional life of the roadways
- Preserve public investment in infrastructure
- Preserve private investment in properties
- Provide a more efficient (and predictable) motorist experience
- Improve travel times through a corridor
- Improve aesthetics

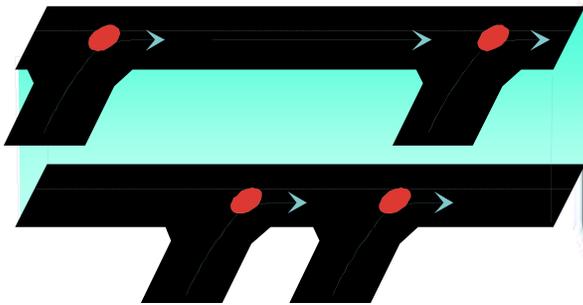




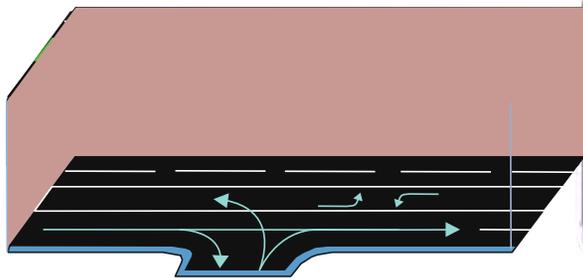
The Principles of Access Management



Limit the number of conflict points for all modes



Separate the conflict points for all modes



Provide reasonable access at each property





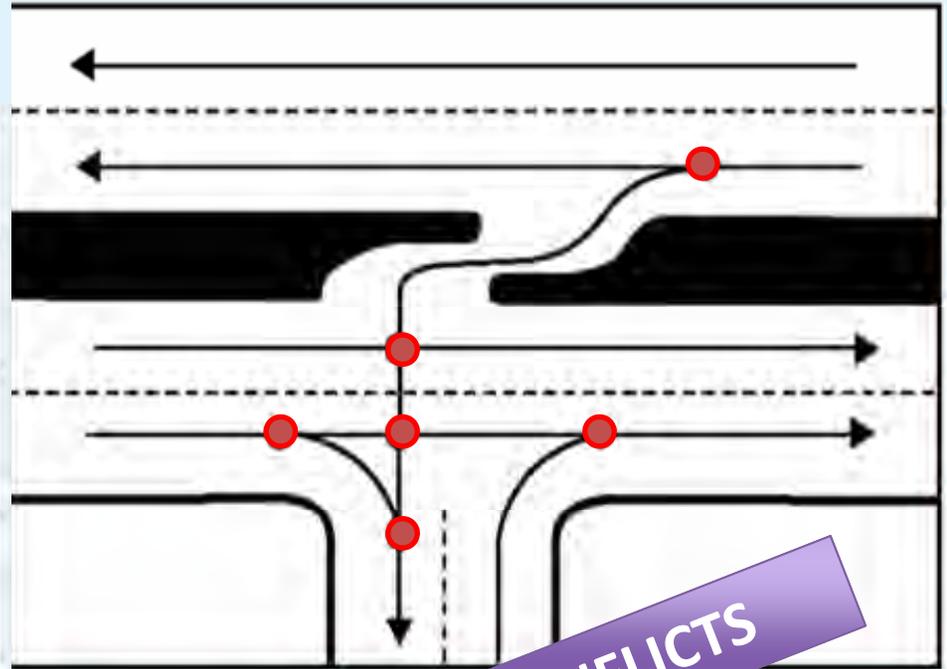
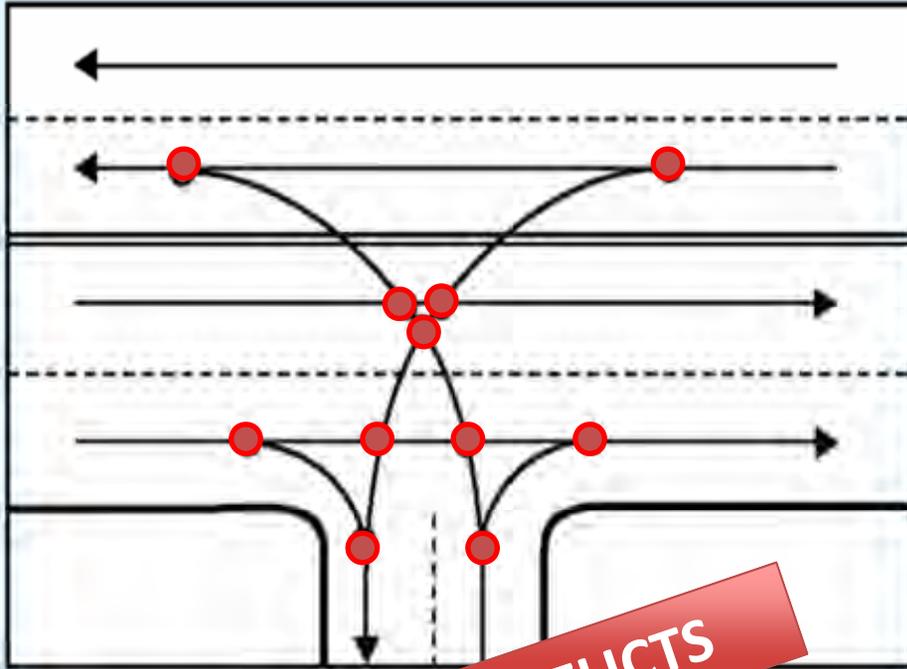
Reduce Conflict Points



More **conflicts** means more **crashes**

Before Access Management

After Access Management



MORE CONFLICTS

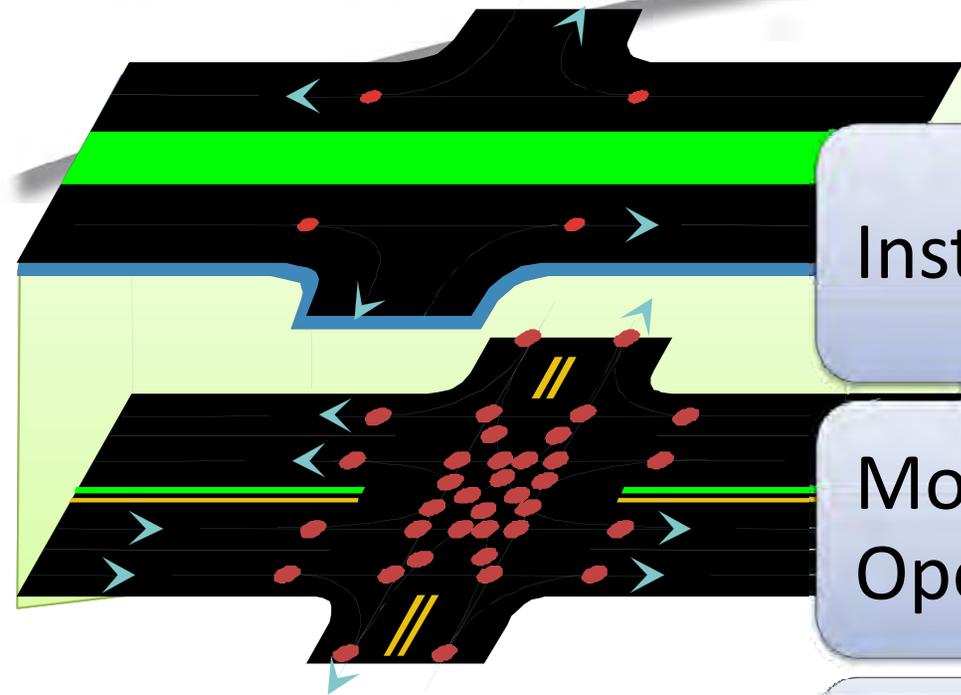
LESS CONFLICTS

Safety Is the Prime Reason for Access Management





Limiting Conflict Points



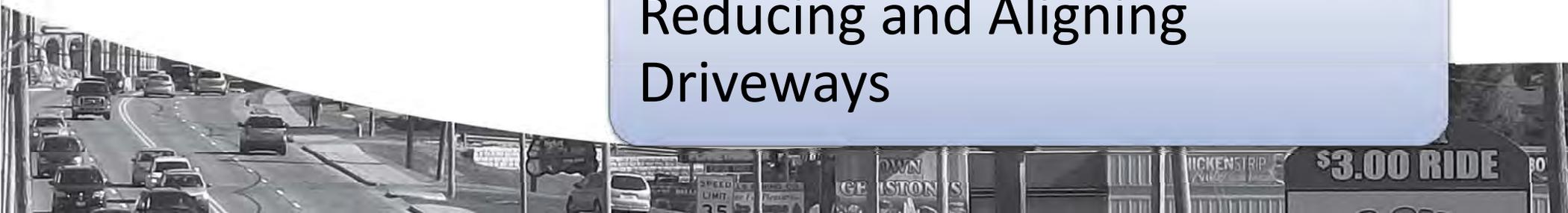
Installing Restrictive Median

More Restrictive Median Openings

Directional vs Full

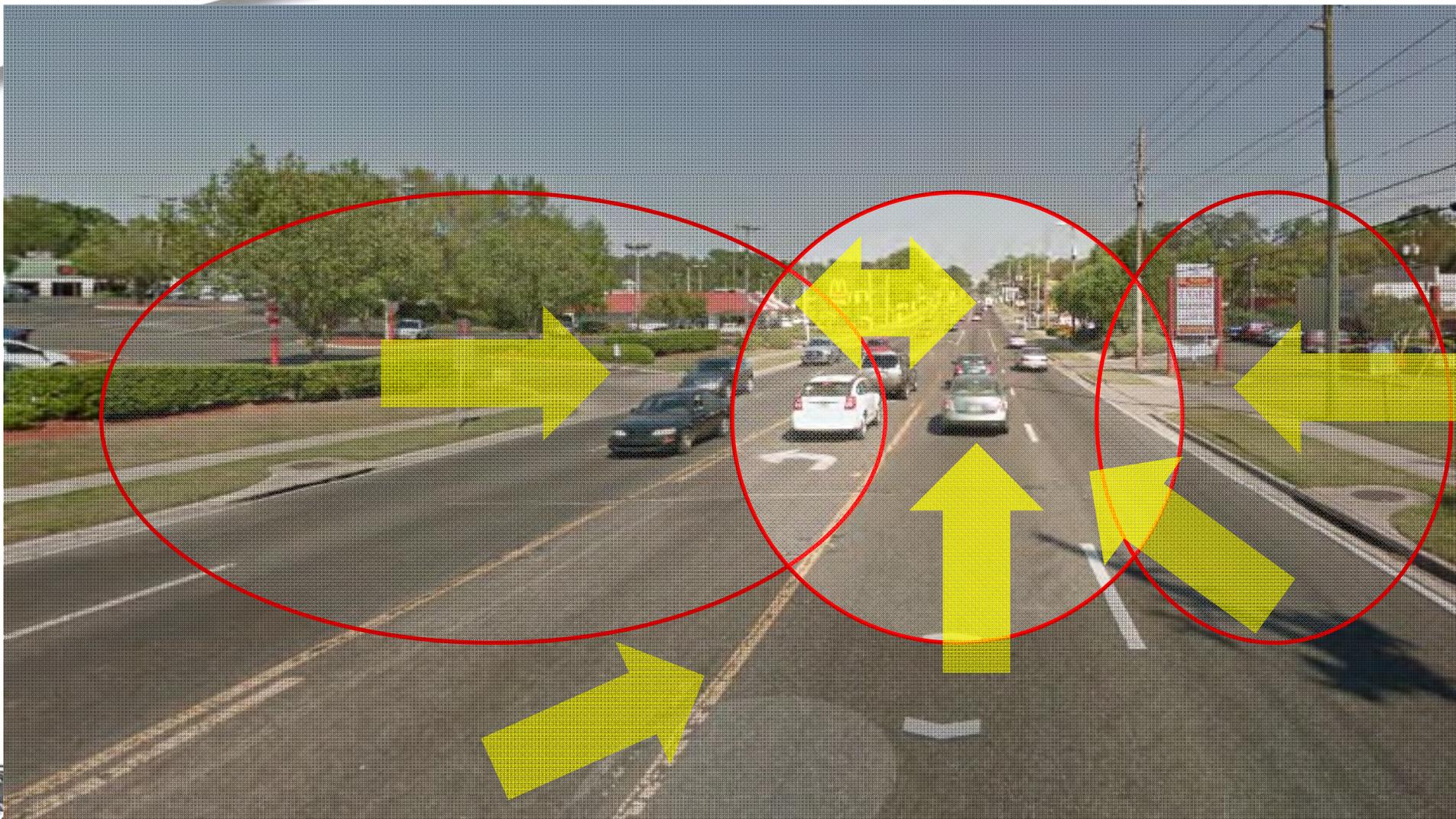
Changing Roadway to One-way

Reducing and Aligning Driveways





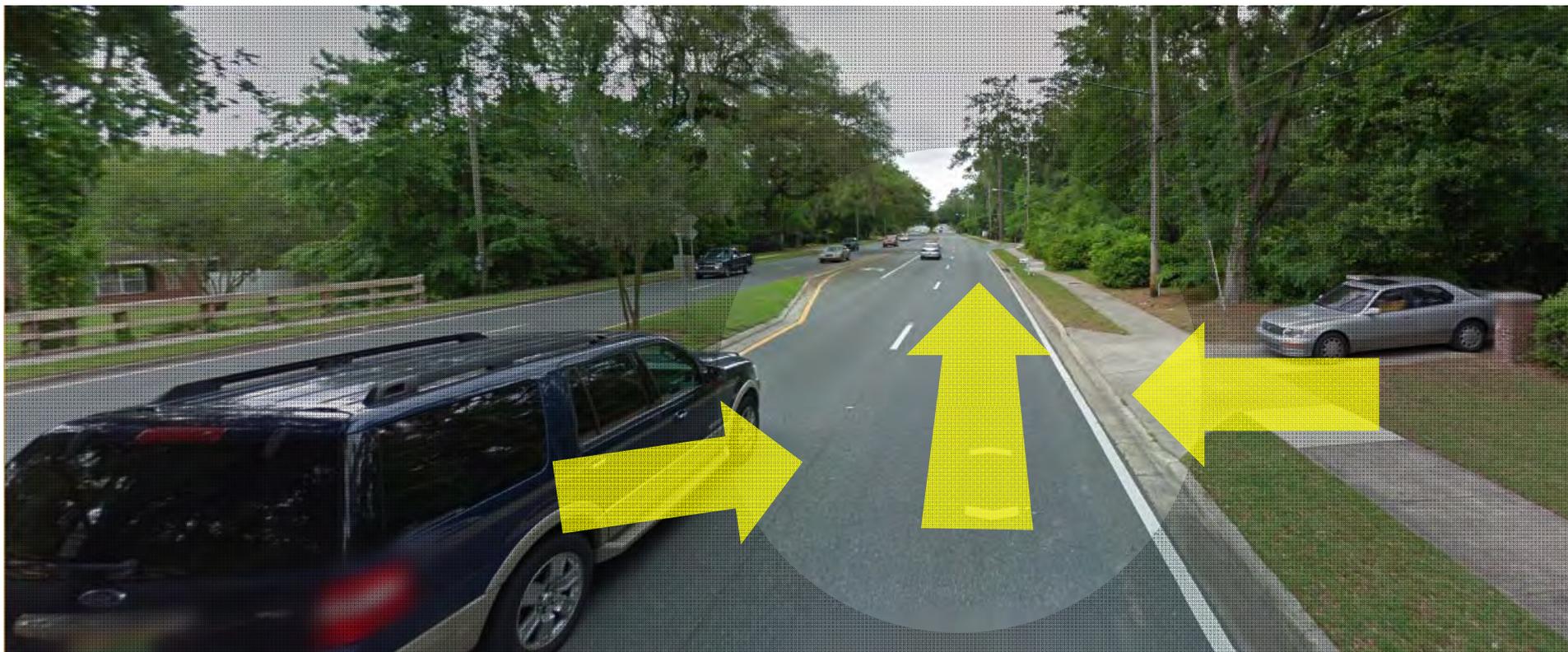
Two-way Left Turn Lane A Drivers Perspective





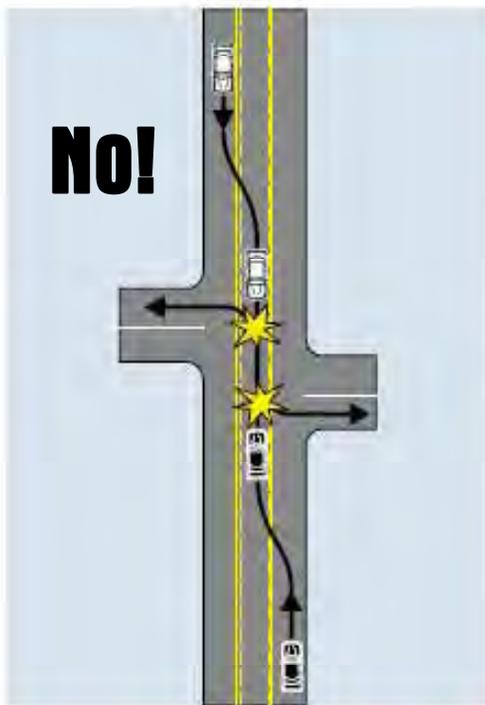
Raised Median

A Drivers Perspective

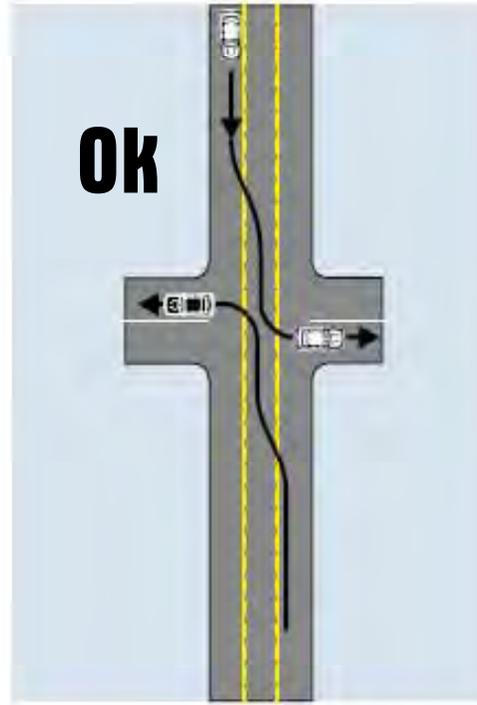




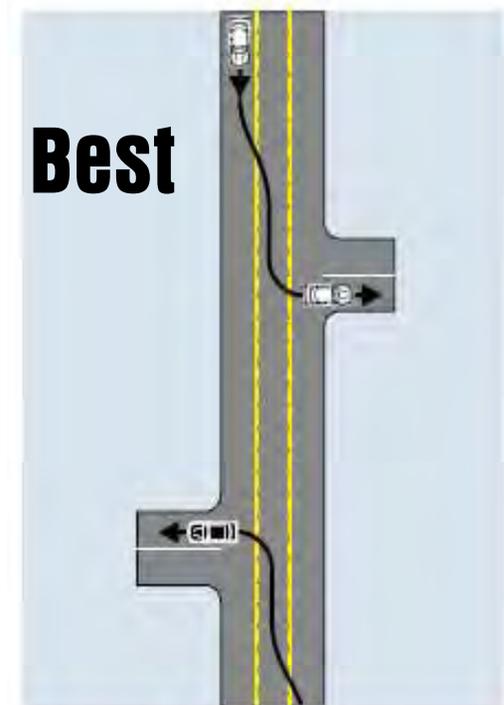
Driveway Locations



Avoid Locating Driveways on Opposite Sides of the Roadway that Create an Overlap for Left Turns.



Align Driveways on Opposite Sides of the Roadway.

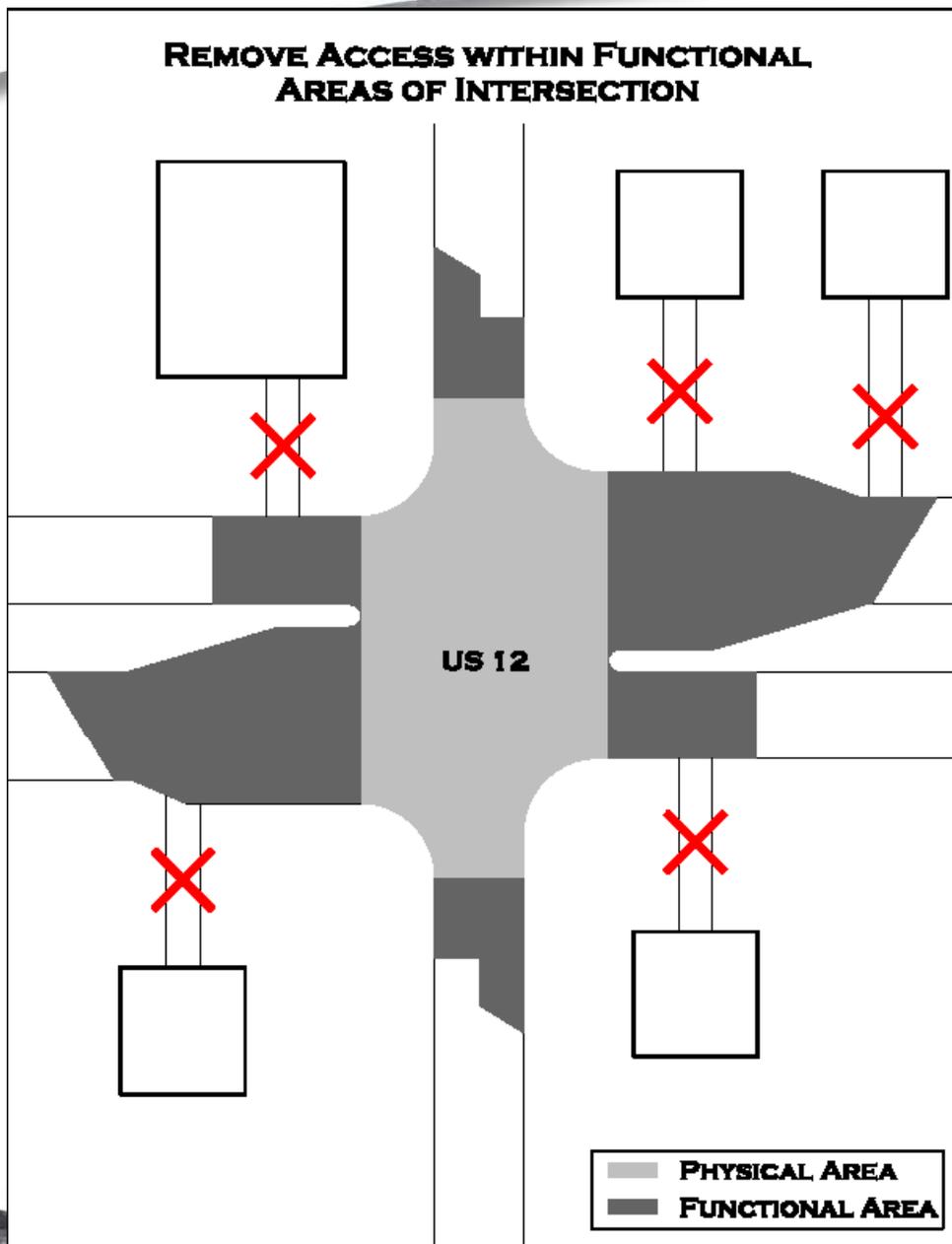


Locate Driveways on Opposite Sides of a Roadway to Achieve a Positive Offset.





Access Management Strategies





Eliminate Driveway Near Intersections

Reaction Time

100'
or more Feet

Deceleration

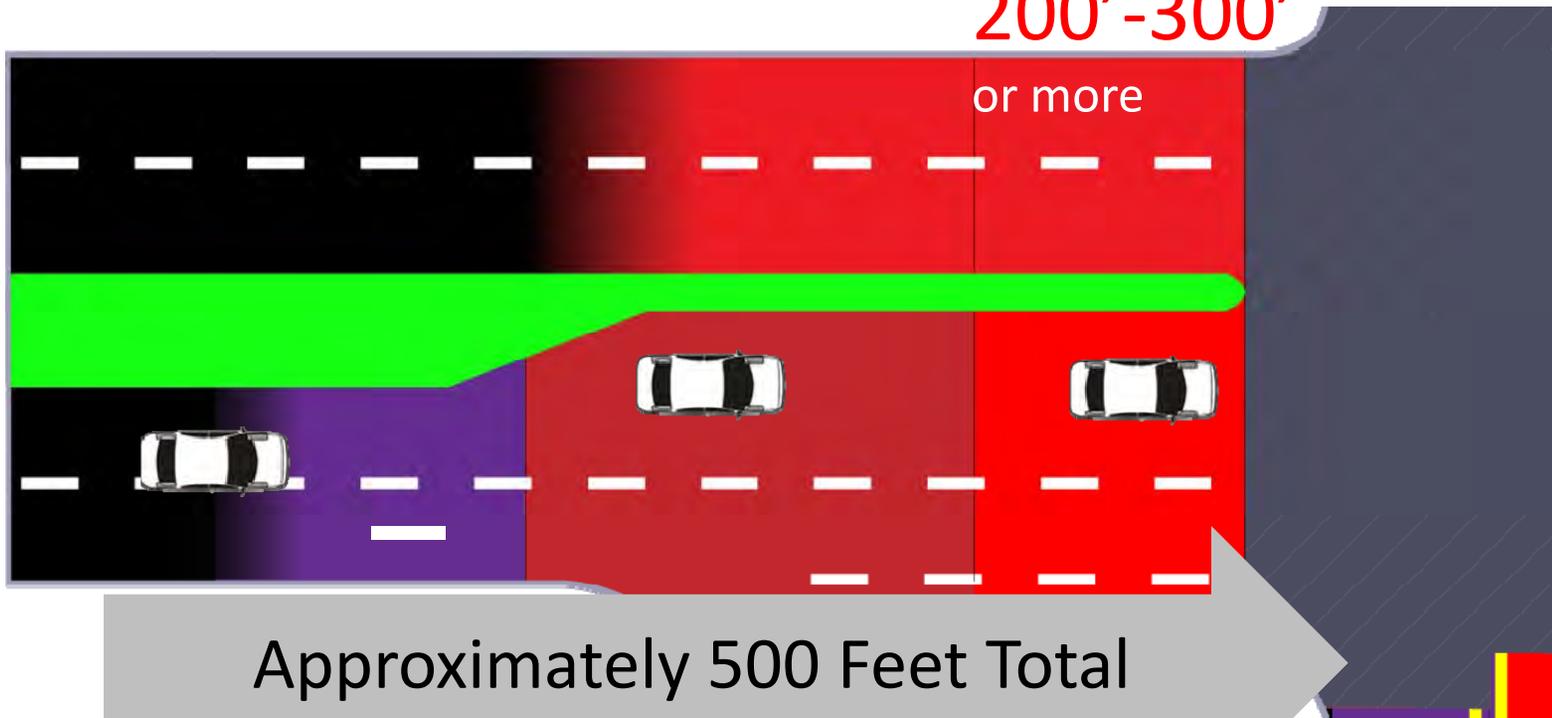
185'

Queue

200'-300'
or more

35 MPH

Design



Approximately 500 Feet Total





Separating Conflict Points

Auto



Ped



Transit

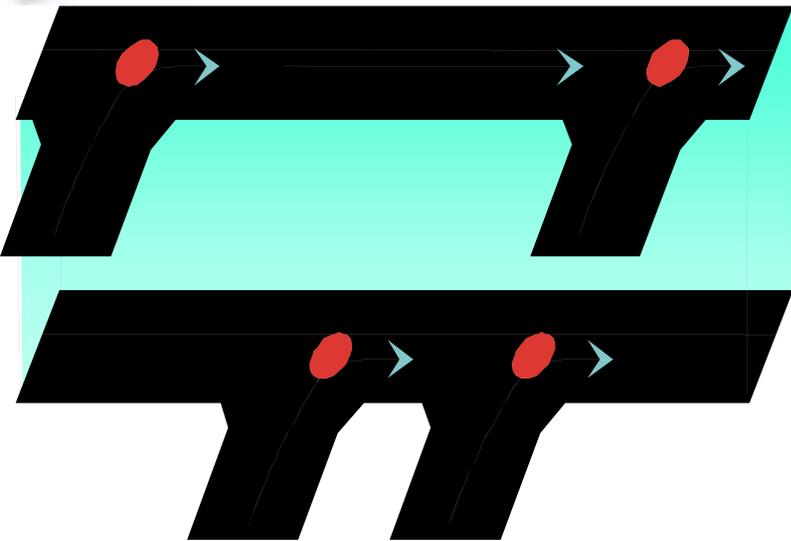


Bike





Separating Conflict Points

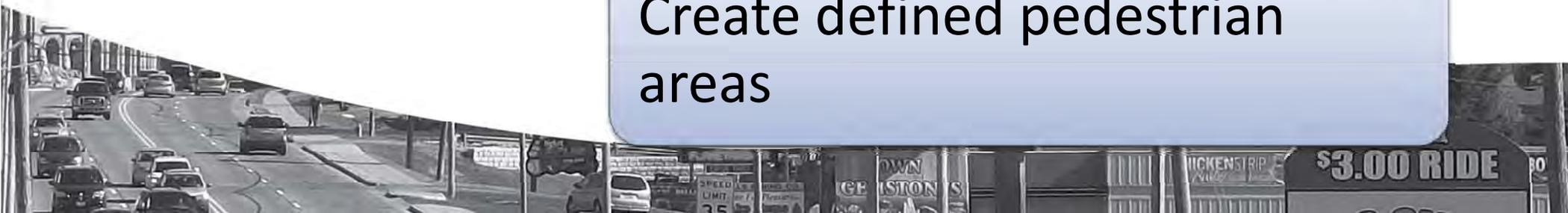


Space-out existing driveways

Eliminating redundant driveways

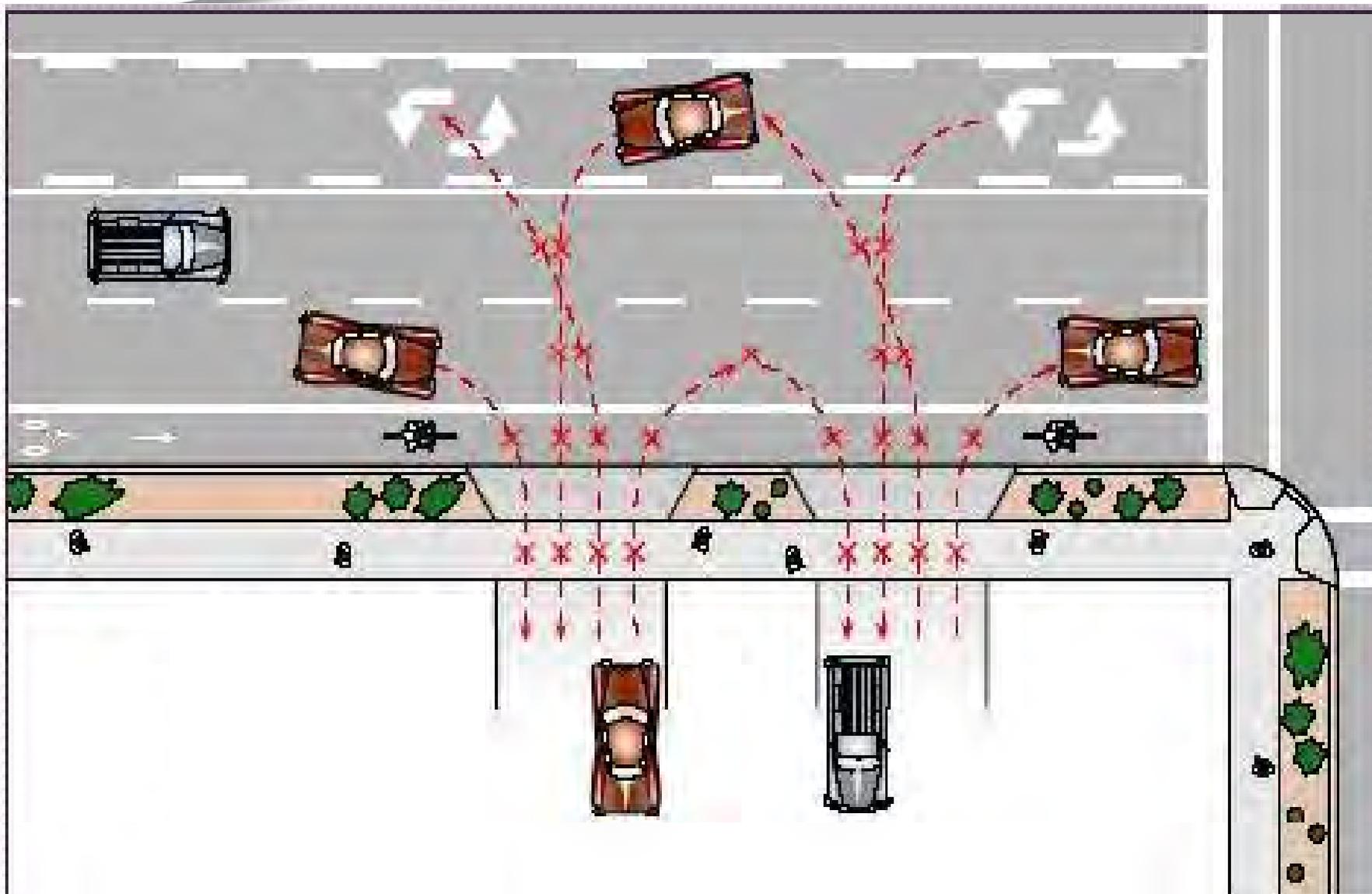
Create bike lanes

Create defined pedestrian areas





Separating Conflicts for All Users



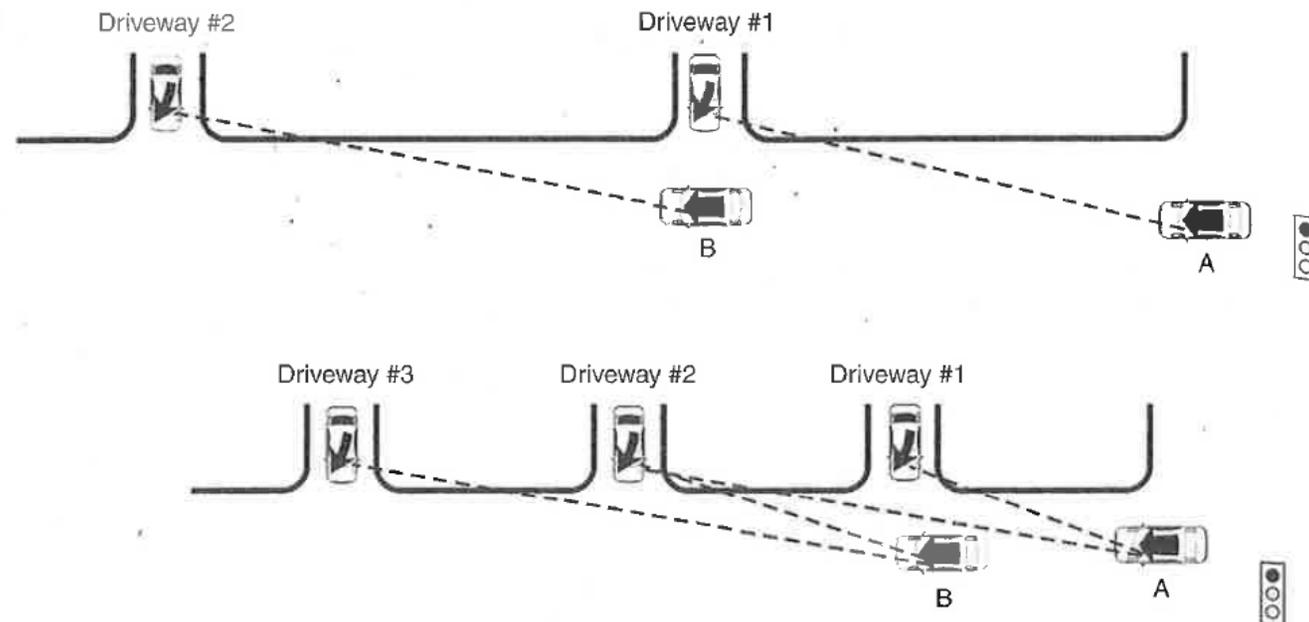


Driveway Spacing



Minimum driveway spacing of 305 feet will result in:

- Stopping sight distance being met.
- Eliminate right-turn conflict.
- Through vehicles will have little influence by upstream driveway (Spill Back Rate <15%).

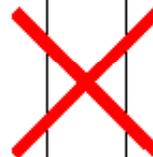




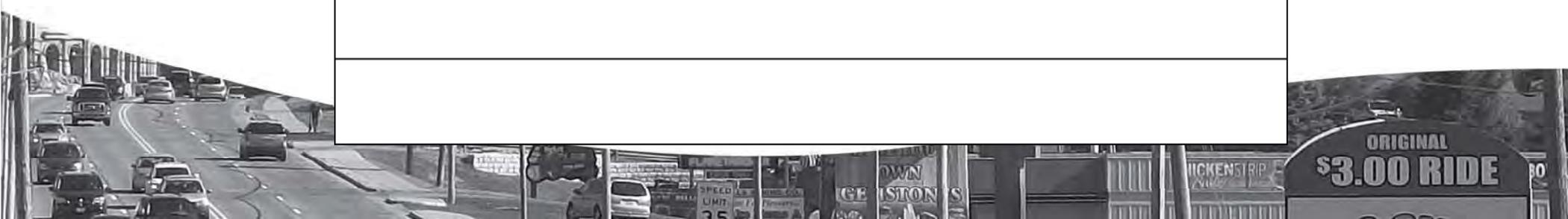
Access Management Strategies



ELIMINATE REDUNDANT DRIVEWAYS



US 12





Two-Way Left Turn Lanes Pedestrians Conflicts



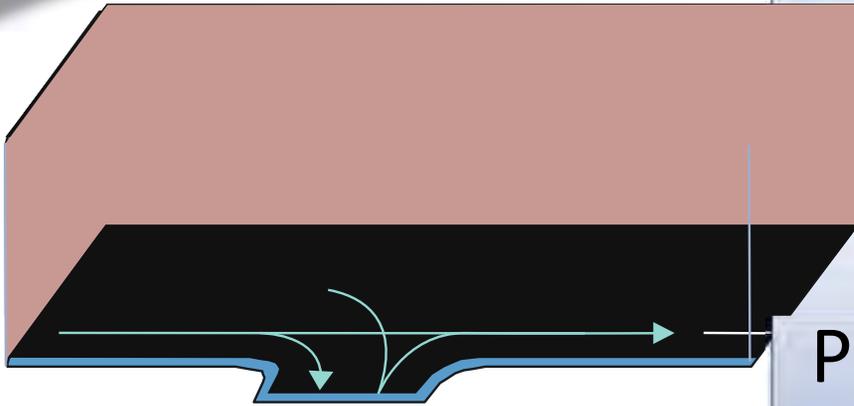


Separating Conflicts - Bicycles





Provide Reasonable Access

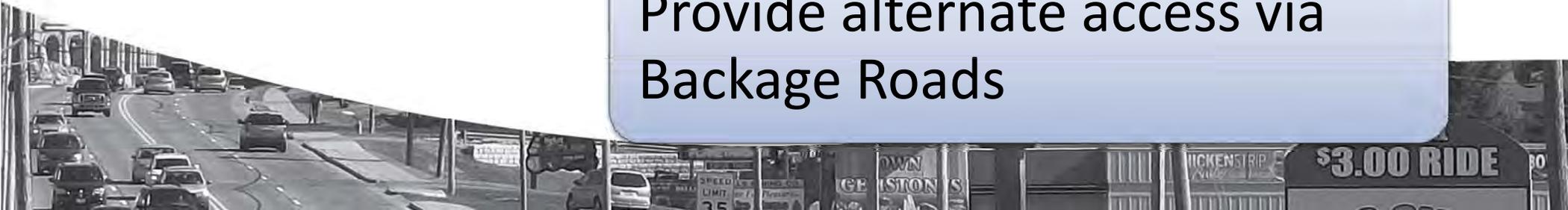


Move access to side street

Provide shared driveways

Promote cross access

Provide alternate access via
Backage Roads

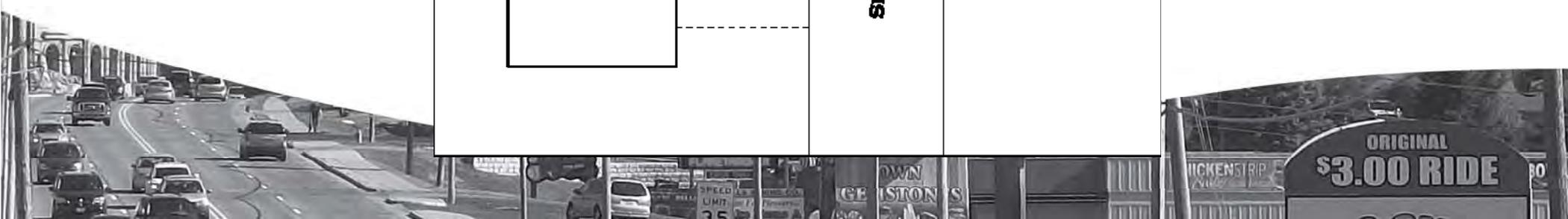
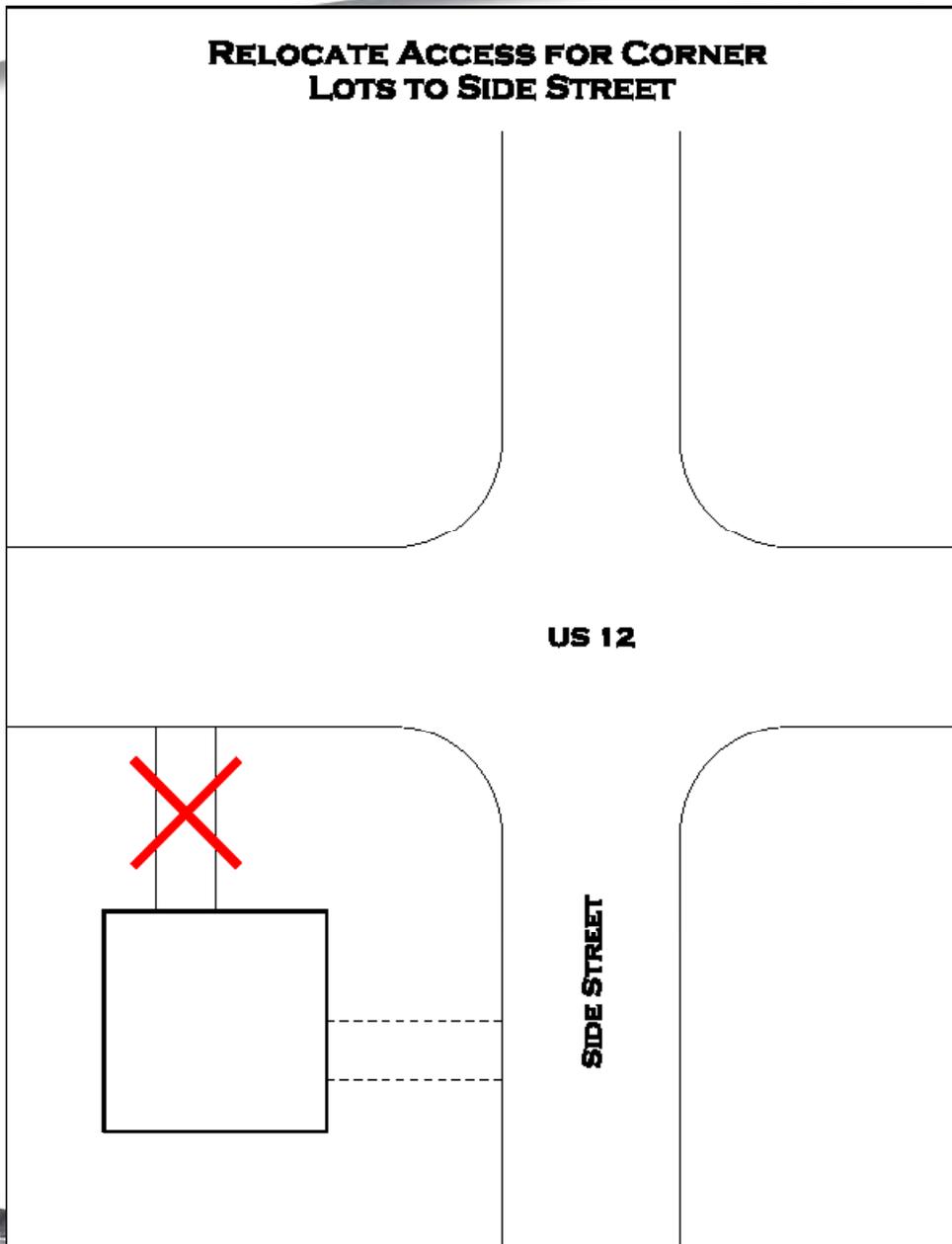




Access Management Strategies



RELOCATE ACCESS FOR CORNER LOTS TO SIDE STREET

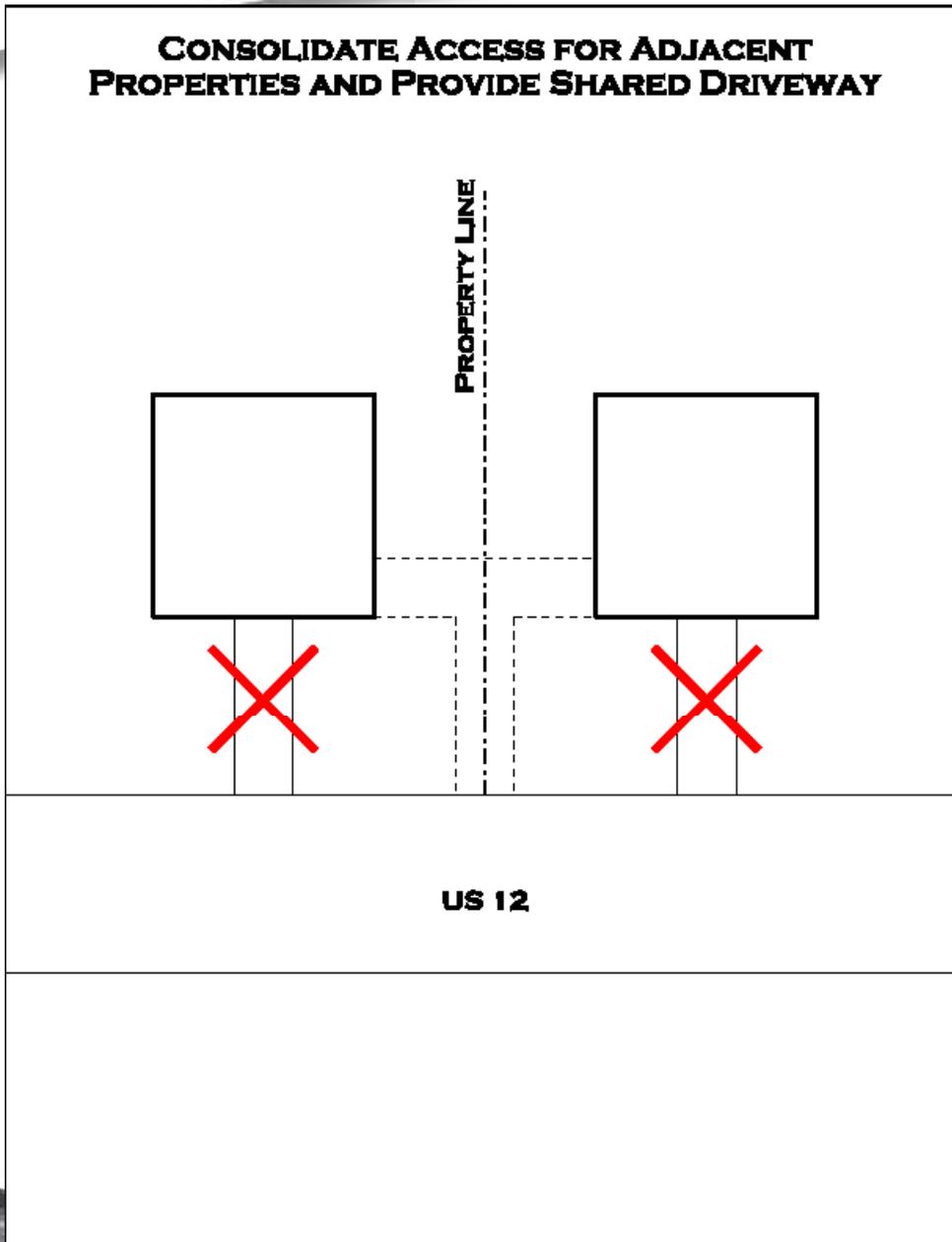




Access Management Strategies



CONSOLIDATE ACCESS FOR ADJACENT PROPERTIES AND PROVIDE SHARED DRIVEWAY

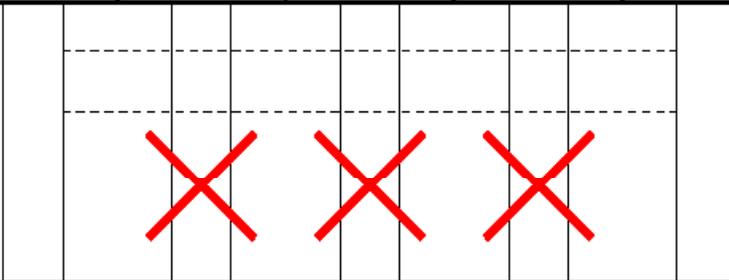
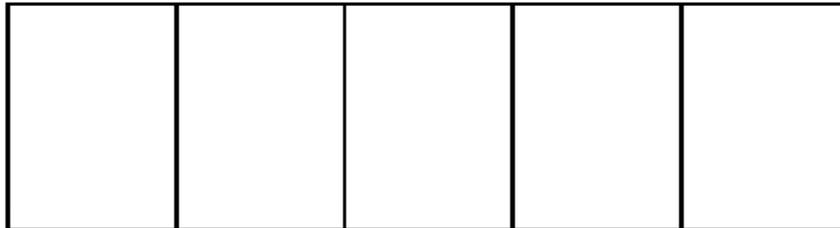




Access Management Strategies



PROMOTE CROSS ACCESS BETWEEN ADJACENT PROPERTIES



US 12



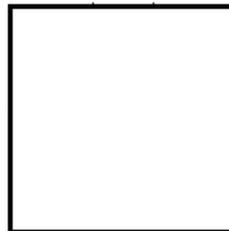
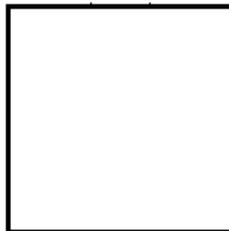


Access Management Strategies



**ELIMINATE ACCESS ON US 12
BY PROVIDING ACCESS VIA BACKAGE ROAD**

BACKAGE ROAD



US 12





SESSION #2

REVIEW OF DESIGN ALTERNATIVES

IDENTIFICATION OF MISSING ALTERNATIVES \ CONCEPTS





Study Alternatives - Dismissed



2 NB/1SB lanes on USH 12 &
1 NB/2SB lanes on Clara Ave

Reasons for Dismissal:

- One SB lane on US 12 can not accommodate the SB travel demand
- WisDOT would not fund 2 adjacent bidirectional roadways





Study Alternatives - Dismissed



2 NB lanes on USH 12 & 1 NB/2SB lanes on Clara Ave

Reasons for Dismissal:

- A US Highway needs to accommodate bidirectional traffic therefore Clara Avenue would become US 12. The existing US 12 would become a local road.
- Clara Avenue would serve as a bypass that is currently accommodated by I-94.
- Challenging to sign.





Study Alternatives



- Four Lane Undivided
- Four Lane Divided (Desirable Median)
- Four Lane / TWLTL
- One-Way Couplets
 - Alternative 4A
 - Option 1 Newsom Road to South of Mt. Olympus
 - Option 2 STH 23 to South of Mt. Olympus
 - Alternative 4B
 - Option 1 – Newsom Road to CTH A
 - Option 2 – STH 23 to CTH A





Demonstration



- The number of access locations and conflict points is directly related to the safety and operations of the roadway.
- Tool to illustrate access management concepts:
 - <http://teachamerica.com/cve/cve.html>





Existing 4 Lane Undivided

Corridor Visualization Explorer Home Choose another scenario Learn more Share on Facebook

Road characteristics (values shown per mile)

- Lanes: 4
- Driveways: 60 (was 50)
- Roundabouts: 0
- Signals per mile: 2
- Median style: Undivided
- Sidewalk Bike lane

Traffic Conditions

- Vehicles per day: 23400 (was 25000)
- Transit buses per hour: 0 (was 1)

NOTE TO USER
The primary value of this tool is to communicate the principles of access management. Though founded on research and published reports, the values shown are estimates and should be used only for general planning applications. Some relationships may be inferred that are not supported by research. They approximate generalized conditions and do not represent any specific roadway.

Your road (1/3 of a mile)

Consequences

- Conflict points:** 970
- Seconds of delay per vehicle:** 56
- Quality of service:**
 - Bike: 100%
 - Bus: 100%
 - Ped: 100%
- Crashes:** Minor (50%), Serious (50%)
- Economic impact:** Business Market Area





Alt #1- 4 Lane Undivided

Corridor Visualization Explorer Home Choose another scenario Learn more Share on Facebook

Road characteristics (values shown per mile)

Lanes: 4 Sidewalk Bike lane

Driveways: 12 (was 50)

Roundabouts: 0

Signals per mile: 3 (was 2)

Median style: **Undivided**

Traffic Conditions

Vehicles per **day**: 23400 (was 25000)

Transit buses per hour: 0 (was 1)

NOTE TO USER
The primary value of this tool is to communicate the principles of access management. Though founded on research and published reports, the values shown are estimates and should be used only for general planning applications. Some relationships may be inferred that are not supported by research. They approximate generalized conditions and do not represent any specific roadway.

Your road (1/3 of a mile)

Consequences

Conflict points

246

Seconds of delay per vehicle

60

Quality of service

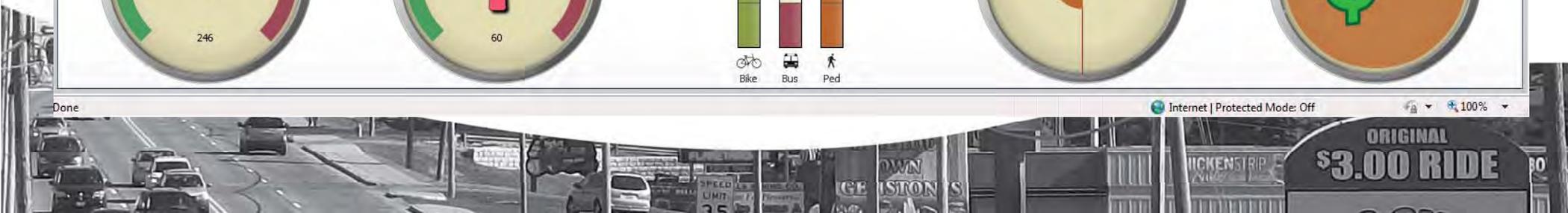
Bike Bus Ped

Crashes

Minor Serious

Economic impact

Business Market Area





Alt #2-



4 Lane Divided with Median

Corridor Visualization Explorer Home Choose another scenario Learn more Share on Facebook

Road characteristics (values shown per mile)

- Lanes: 4
- Driveways: 20 (was 50)
- Roundabouts: 0
- Signals per mile: 3 (was 2)
- Median style: Restrictive median (was undivided)
- Full openings: 1
- Directional openings: 6 (was 2)
- Sidewalk Bike lane

Traffic Conditions

- Vehicles per day: 23400 (was 25000)
- Transit buses per hour: 0 (was 1)

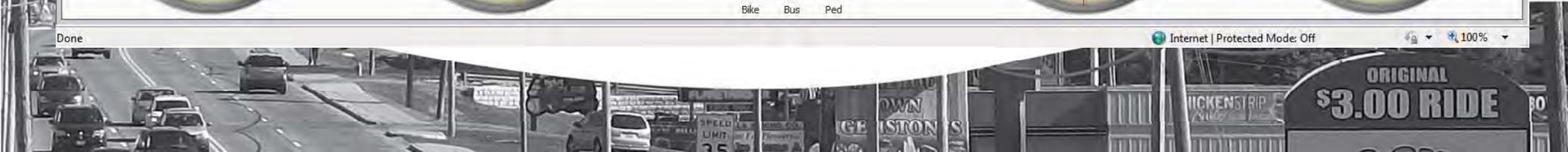
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Your road (1/3 of a mile)

Consequences

- Conflict points:** 194
- Seconds of delay per vehicle:** 62
- Quality of service:**
 - Bike: High (green)
 - Bus: Low (red)
 - Ped: Medium (orange)
- Crashes:** Minor (50%) / Serious (50%)
- Economic impact:** Business / Market Area

Done Internet | Protected Mode: Off 100%





Alt #3- 4 Lane with TWLTL

Corridor Visualization Explorer Home Choose another scenario Learn more Share on Facebook

Road characteristics (values shown per mile)

- Lanes: 4 Sidewalk Bike lane
- Driveways: 16 (was 50)
- Roundabouts: 0
- Signals per mile: 3 (was 2)
- Median style: Two-way left turn lane (was undivided)

Traffic Conditions

- Vehicles per day: 23400 (was 25000)
- Transit buses per hour: 0 (was 1)

Note to user
The primary value of this tool is to communicate the principles of access management. Though founded on research and published reports, the values shown are estimates and should be used only for general planning applications. Some relationships may be inferred that are not supported by research. They approximate generalized conditions and do not represent any specific roadway.

Your road (1/3 of a mile)

Consequences

- Conflict points:** 308
- Seconds of delay per vehicle:** 61
- Quality of service:**
 - Bike: High (green)
 - Bus: Low (red)
 - Ped: Medium (orange)
- Crashes:** Minor (50%) / Serious (50%)
- Economic impact:** Business / Market Area

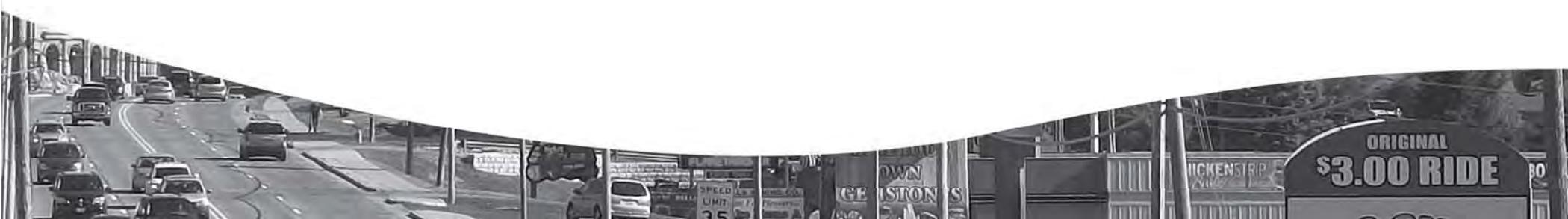




Summary of Alternatives



	Existing	Alt # 1 Undivided	Alt # 2 Median Divided	Alt # 3 TWLTL	Alt # 4A One-Way Couplet	Alt # 4B One-Way Couplet
Driveways	120	18	37	29	42	40
Conflict Points	1529	375	310	500	244	192
Potential Building Relocations	-	6	6	7	2	2





SESSION #3

NEXT STEPS: PIM #2

TOOLS FOR SCREENING ALTERNATIVES





Next Steps



- PIM #2 – January 22, 2013
- Identify Viable Alternatives
- Design Team Refines Alternatives
 - Traffic Operational Analysis
 - Assess Access Management Considerations
 - Environmental Impacts
 - Right-of-Way Impacts/Relocations
- PAG Workshop #4 - Evaluation of Alternatives





Next Steps: Evaluation Tools



Access / Business Impacts	Evaluation Tool	Available Information
<ul style="list-style-type: none"> • Reduce driveways 	<ul style="list-style-type: none"> • Comparison of Proposed Alternative to Existing Condition: Count Driveways 	Design Team will Provide # of Driveways Proposed for Each Alternative & the Existing Condition
<ul style="list-style-type: none"> • Minimize conflict points 	<ul style="list-style-type: none"> • Comparison of Proposed Alternative to Existing Condition: Count Conflict Points 	Design Team will Compare Conflict Points for Each Alternative to the Existing Condition
<ul style="list-style-type: none"> • Increased controlled intersections (Signals or Roundabouts) 	<ul style="list-style-type: none"> • Comparison of Proposed Alternative to Existing Condition: Count Controlled Intersections 	Design Team will outline change in Intersection Control in comparison to existing Conditions. i.e. traffic signals at Lake Avenue and CTH A
<ul style="list-style-type: none"> • Maintains pass-by traffic 	<ul style="list-style-type: none"> • Yes / No 	Does alternative require traffic currently traveling along US 12 to be redirected?
<ul style="list-style-type: none"> • Improve for wayfinding signage 	<ul style="list-style-type: none"> • Yes / No May not be alternative dependant. 	Does alternative include wayfinding improvements?
<ul style="list-style-type: none"> • Minimize Right of Way acquisition 	<ul style="list-style-type: none"> • Proposed Right-of-Way Width 	Design Team will provide public right-of-way width desired for each typical section alternative.
<ul style="list-style-type: none"> • Minimize real-estate relocations 	<ul style="list-style-type: none"> • Evaluate Impacts 	Design Team will summarize real estate impacts: <ol style="list-style-type: none"> 1. Fee acquisitions (Parcels / Acres) 2. Relocations (Residential / Business) 3. Easement Requirements
<ul style="list-style-type: none"> • Compatibility with local land use plans 	<ul style="list-style-type: none"> • Comparison to Land Use Plans 	Long Range Plans: Village of Lake Delton, City of Wisconsin Dells, Sauk County

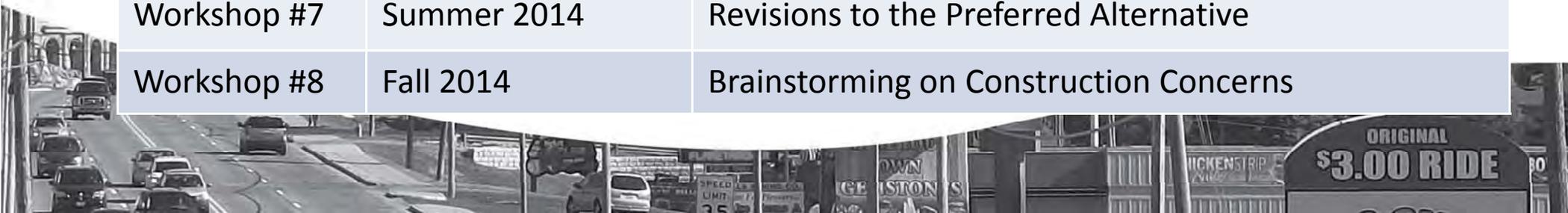




PAG Workshop Schedule



Workshop	Date	Definition of Meeting
Workshop #1	September 6, 2012	Existing Corridor Context Vision Exercise Transportation Planning 101
Workshop #2	October 10, 2012	Ranking of Values Development of Typical Sections Design Charette
Workshop #3	December 12, 2012	Access Management Workshop Review of Alternatives
PIM #2	January 22, 2013	Present Alternatives for Public Comment
Workshop #4	Spring 2013	Evaluate Alternatives
Workshop #5	Summer 2013	Refine Alternatives
Workshop #6	Fall 2013	Preferred Alternative
Workshop #7	Summer 2014	Revisions to the Preferred Alternative
Workshop #8	Fall 2014	Brainstorming on Construction Concerns





THANK YOU FOR YOUR TIME!

