



# US 51 Corridor Study

Stoughton to McFarland

I-39/90 to USH 12/18 (Madison South Beltline)



## Public Information Meeting

### April 14, 2011



# Presentation Outline

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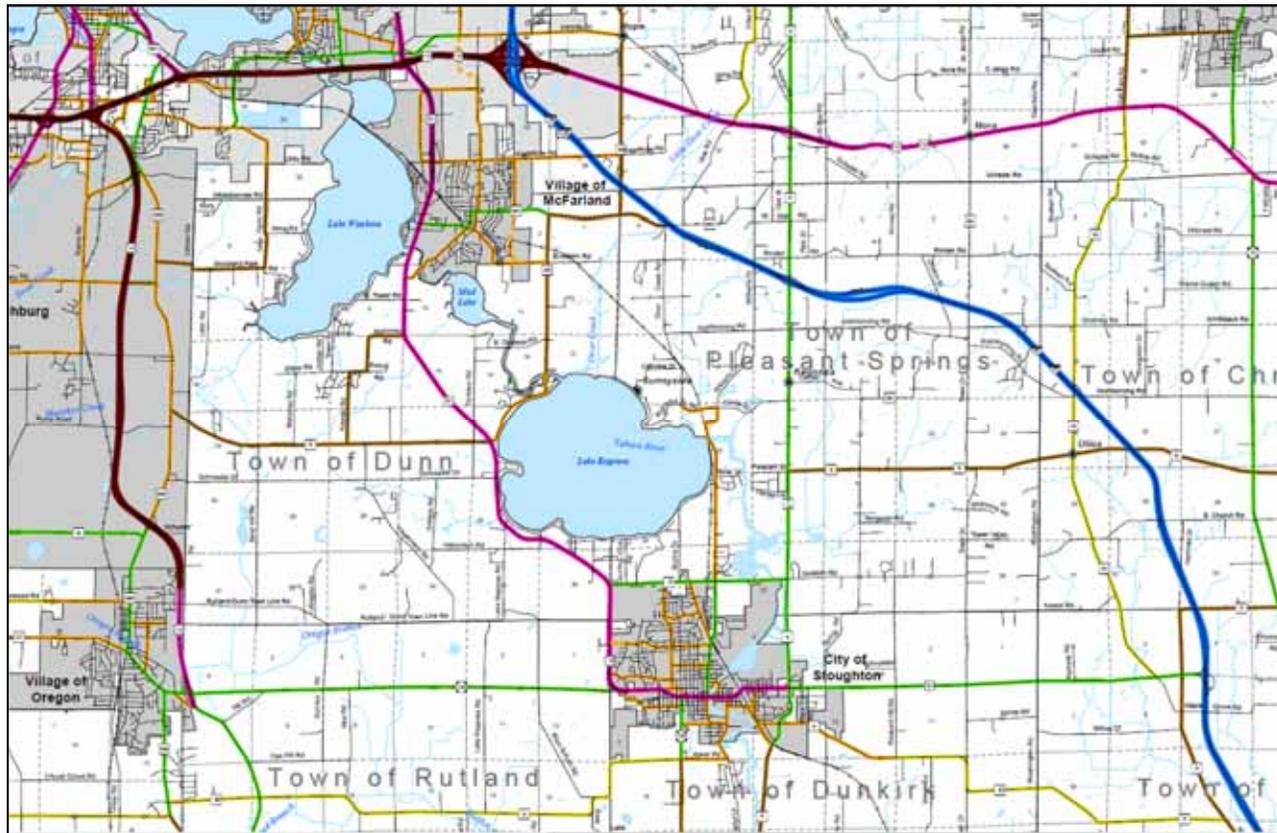
1. Corridor overview
  - Location, function, type
2. Project purpose and need
3. Study timeline/Communications
4. Alternative development
5. Changes made in response to public/agency
6. Impacts summary
7. Project schedule/Next steps







# Corridor Overview



*Madison Transportation Planning Board -  
Roadway Functional Classification System map*

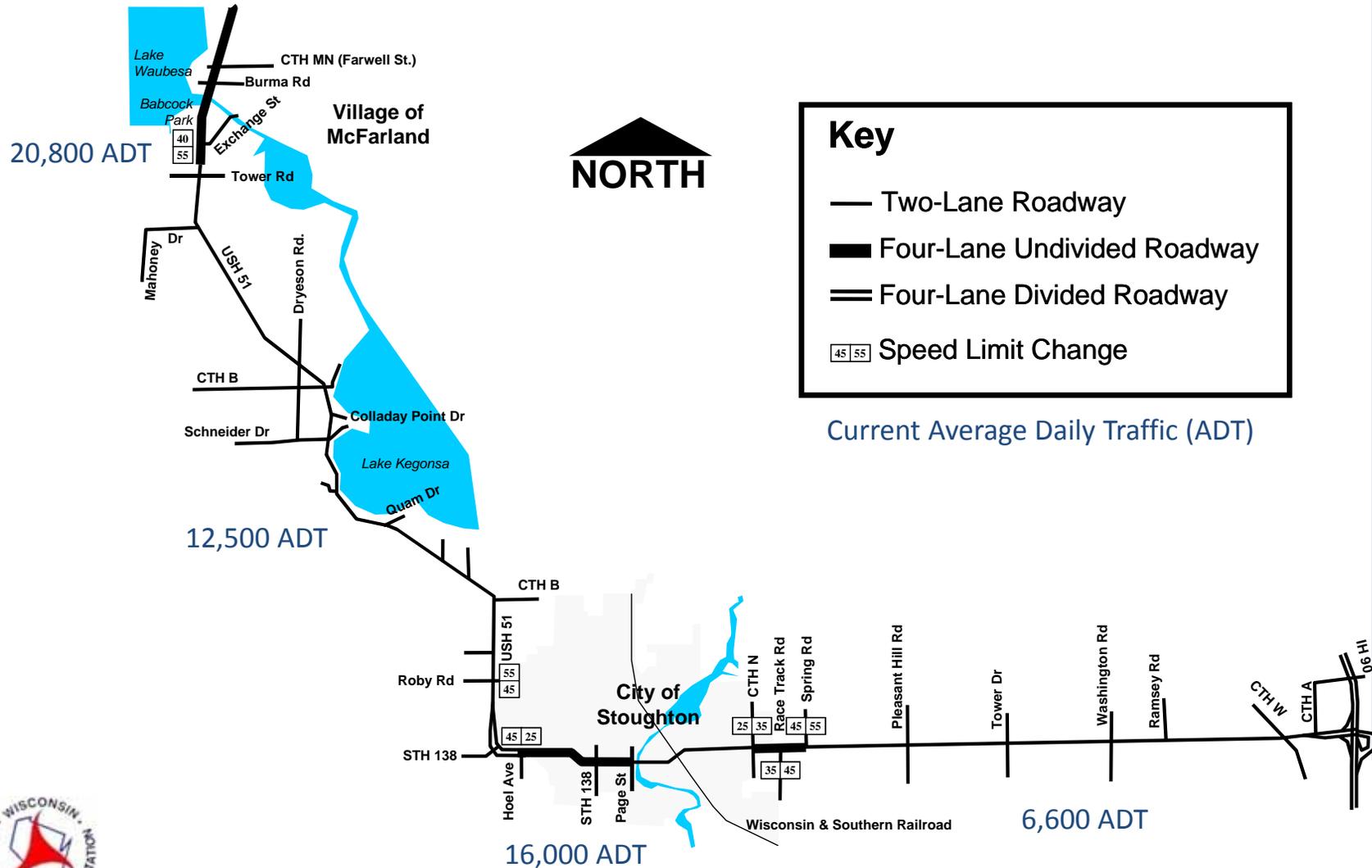
- Principal arterial
- 4-lane and 2-lane, urban and rural segments

Stoughton – McFarland, Dane County





# Corridor Overview





# Project Purpose

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Provide a safe and efficient transportation system in the US 51 corridor to serve present and long-term travel demand while minimizing disturbance to the environment.





# Project Need

Project need has 5 contributing factors

1. Travel Demand
2. Safety
3. Substandard Roadway Items
4. Bicycle and Pedestrian Accommodations
5. Corridor Preservation & Long-Term Planning





# Need: Travel Demand

Study corridor currently operates within acceptable limits at most locations (Level of Service D or higher)

Level of Service	Signalized Delay (sec)	Unsignalized Delay (sec)	Typical Roadway Conditions
A	< 10	< 10	Primarily free-flow operations. Control delay at intersections is minimal.
B	10 to 20	10 to 15	Ability to maneuver in traffic is slightly restricted. Delay at intersections is not significant.
C	> 20 to 35	> 15 to 25	Stable operations with ability to maneuver in traffic restricted. Delay at intersections may contribute to congestion.
D	> 35 to 55	> 25 to 35	Small increases in traffic volumes may cause substantial increases in delay. Congestion at intersections is apparent.
E	> 55 to 80	> 35 to 50	Significant delay and poor travel speeds expected. Intersections experience significant delay and queuing.
F	> 80	> 50	Delays are at unacceptable levels for most drivers. Roadway network capacity exceeded.

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# Need: Travel Demand

Level of Service
A
B
C
D
E
F

## Future:

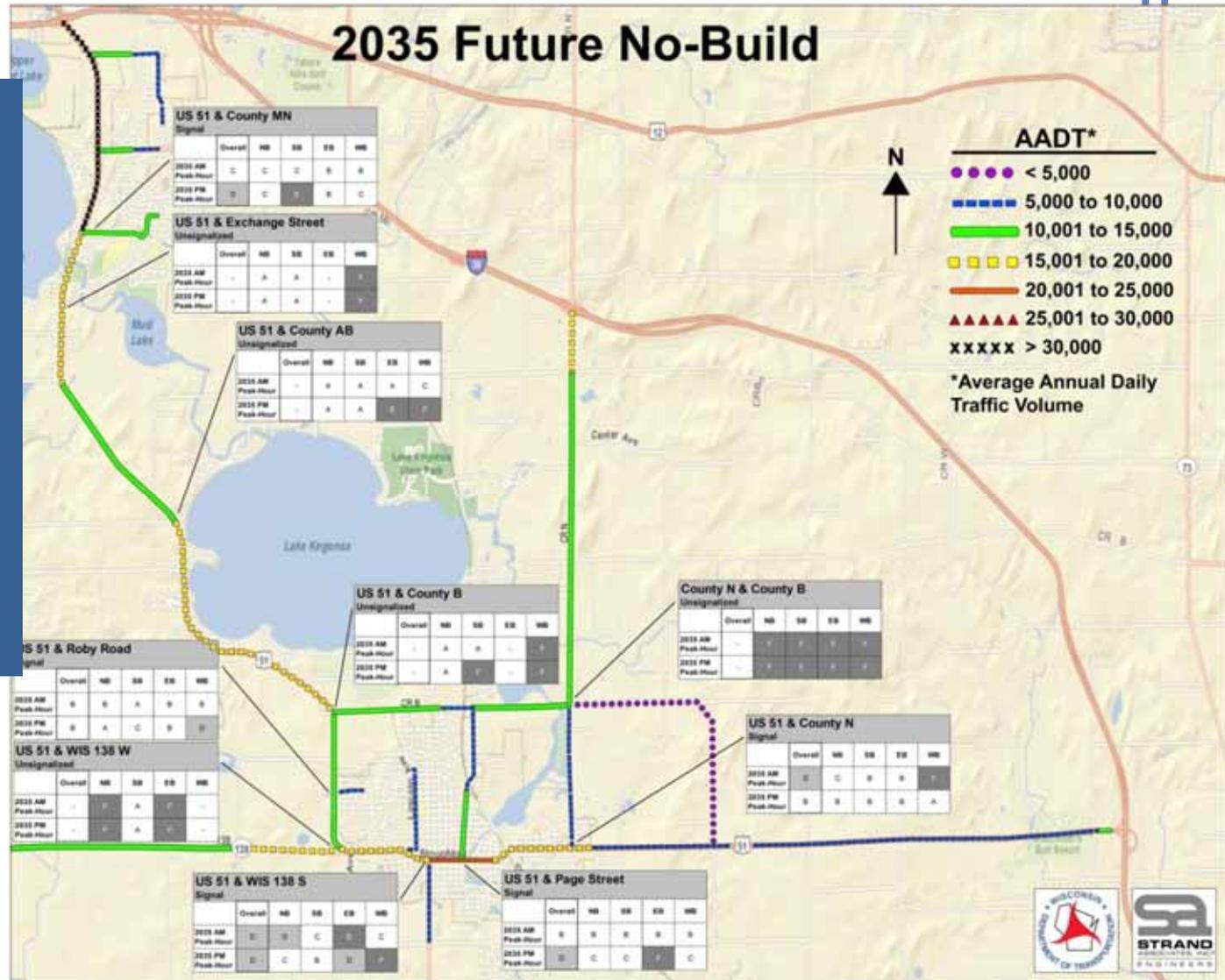
- Projected traffic volumes will produce unacceptable congestion at peak travel times at many locations.
- Future operations modeling for year 2035 shows:
  - Unacceptable congestion and queuing between County B and County B/AB (LOS E)
  - Failing operations at 13 unsignalized intersections from WIS 138 to Exchange Street (LOS F)





# Need: Travel Demand

Projected traffic volumes for much of the 2-lane section north of Stoughton are higher than the 4-lane threshold [above 15,000 average daily traffic (ADT)].





# Need: Safety



2004-2006 1.3 x SWA  
2007-2009 1.8 x SWA  
Fatal rate 3.2 x SWA

2004-2006 1.5 x SWA  
2007-2009 < SWA

2004-2006 2.3 x SWA  
2007-2009 1.4 x SWA,  
Fatal rate 2.2 x SWA

2004-2006 < SWA  
2007-2009 = SWA

- Crash rates are above statewide average (SWA) in most segments of the corridor
- Injury Crash Rate is 2 x SWA for the Stoughton through McFarland segments
- Fatal crash rates are high in some segments
- Safety should be improved to reduce overall crash and injury crash rates.

• Crash Rates do not include deer crashes





## Need: Substandard Roadway Items



- Areas with deficient vertical alignment, superelevation, and horizontal clearance have been identified.



- Poor intersection geometries and a lack of passing opportunities should be corrected to improve safety.



## Need: Bicycle and Pedestrian Accommodations



- There is noncontinuous, or nonexistent, bicycle and pedestrian accommodations along the US 51 corridor.
- Enhance provisions for pedestrians and bicycles to provide multimodal options and continuity.

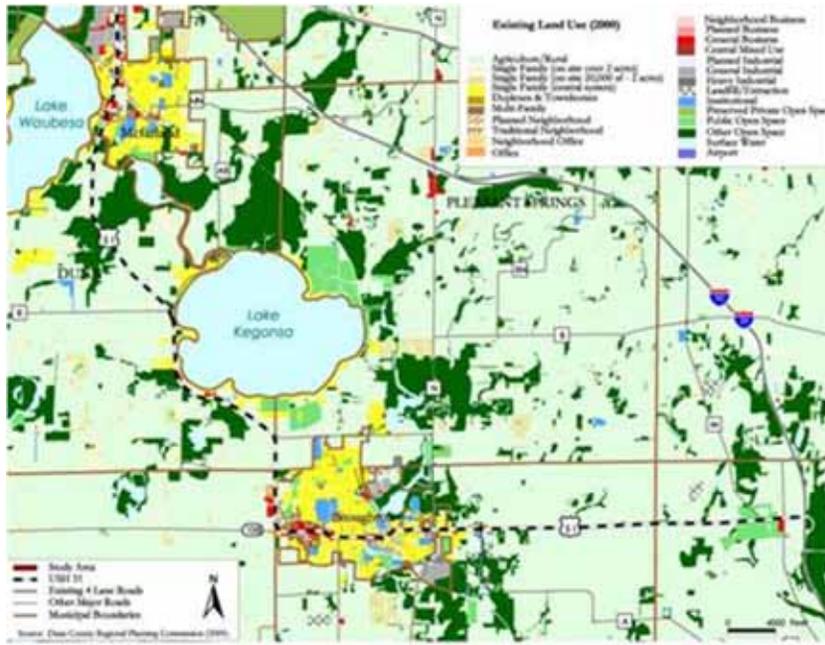


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## Need: Corridor Preservation & Long-Term Planning



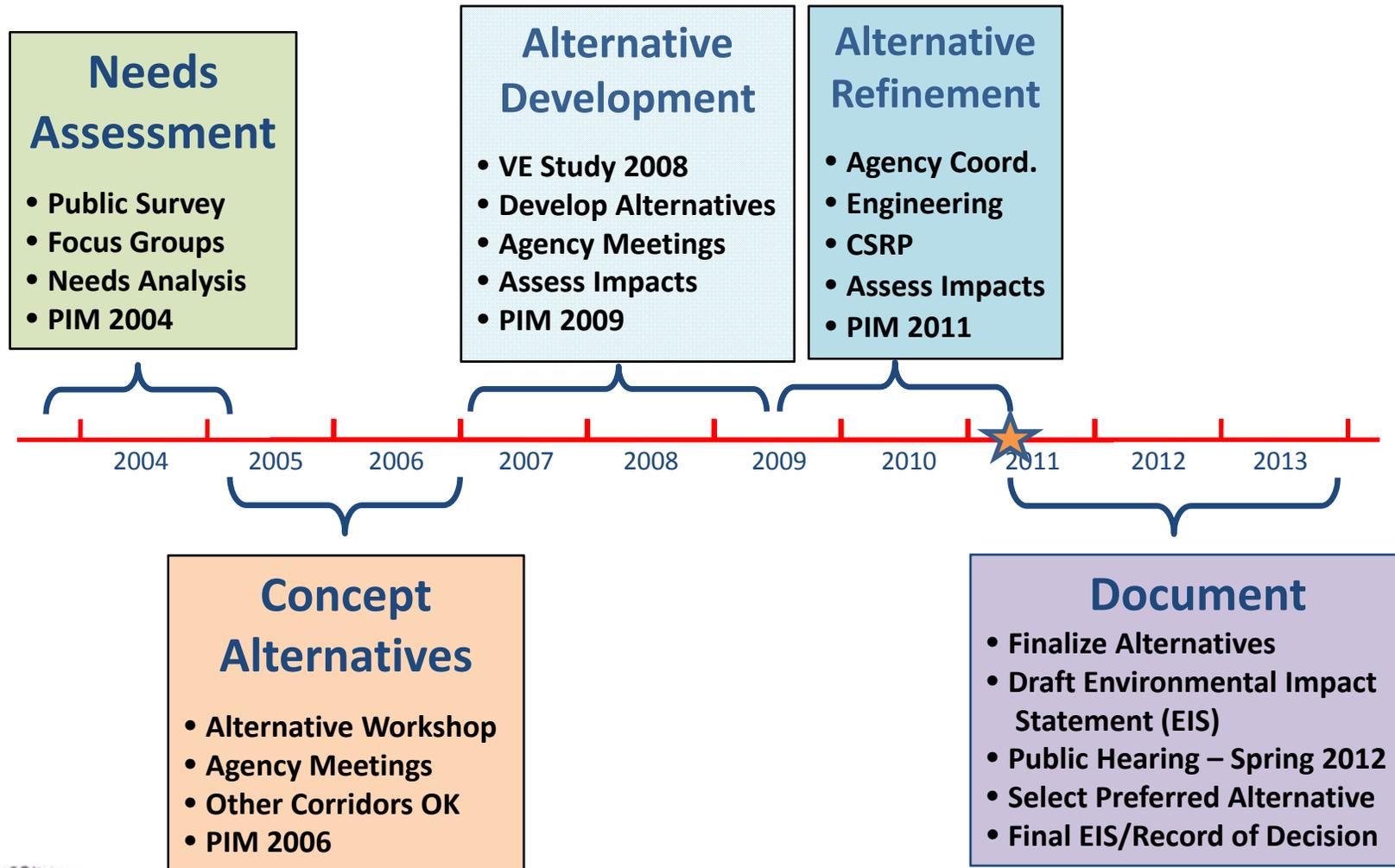
To maintain mobility through and around communities along the corridor, transportation strategies for long-term corridor management must work together with area Comprehensive Plans.

- Promote existing transit and Travel Demand Management programs.
- Continue to apply appropriate controls on new development to accommodate transportation needs.
- Coordinate the rails to trails bike link between Capital City Trail and Stoughton.





# Corridor Study Timeline





# Communication: Agency Input

- SAFETEA-LU 6002
  - Coordination Plan (Federal, state, local, tribes)
  - Impact Analysis Methodology
- Agency Coordination Meetings
- Technical Advisory Committee
- Policy Advisory Committee





# Communication: Public

- 2004 PIM – Needs Assessment Results
- 2005 – Alternatives Solutions Workshop
- 2006 PIM – Concept Alternatives (other highways)
- 2009 PIM – Alternatives (after Value Engineering)
- 2011 PIM – April 14: Refined Alternatives
- 2012 Public Hearing on Draft EIS



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## Overview of Alternative Development

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- Concept development (2005-06)
  - Recognize area challenges and constraints
- Value Engineering Study (2008)
- Initial alternative refinement
- Further alternative refinement after 2009 public meeting and agency input





# Concept Development (2005-06)



## Concept Alternatives (in 2006)

- Safety improvements only  
or
- 4-lane expansion of either:
  - US 51
  - WIS 138
  - County N
  - *WIS 138 and N*
- Each 4-lane expansion includes expansion of local roads around Stoughton





# Value Engineering Study (2008)



## VE Study (in 2008)

Recommended  
the 4-lane around  
Stoughton be  
located east of  
County N on  
Skaalen Road and  
Pleasant Hill Road





## Alternatives at 2009 PIM:

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- 4-lane Expansion Alternatives showed:
  - US 51 – avoid archaeological sites, placed interchanges at County B and County B/AB
  - WIS 138 – avoid historic, minimize relocations
  - County N – avoid cemetery, historic properties
- All 4-lane alternatives included a 4-lane roadway around Stoughton on County B, Skaalen Road and Pleasant Hill Road.





## Comments at 2009 PIM:



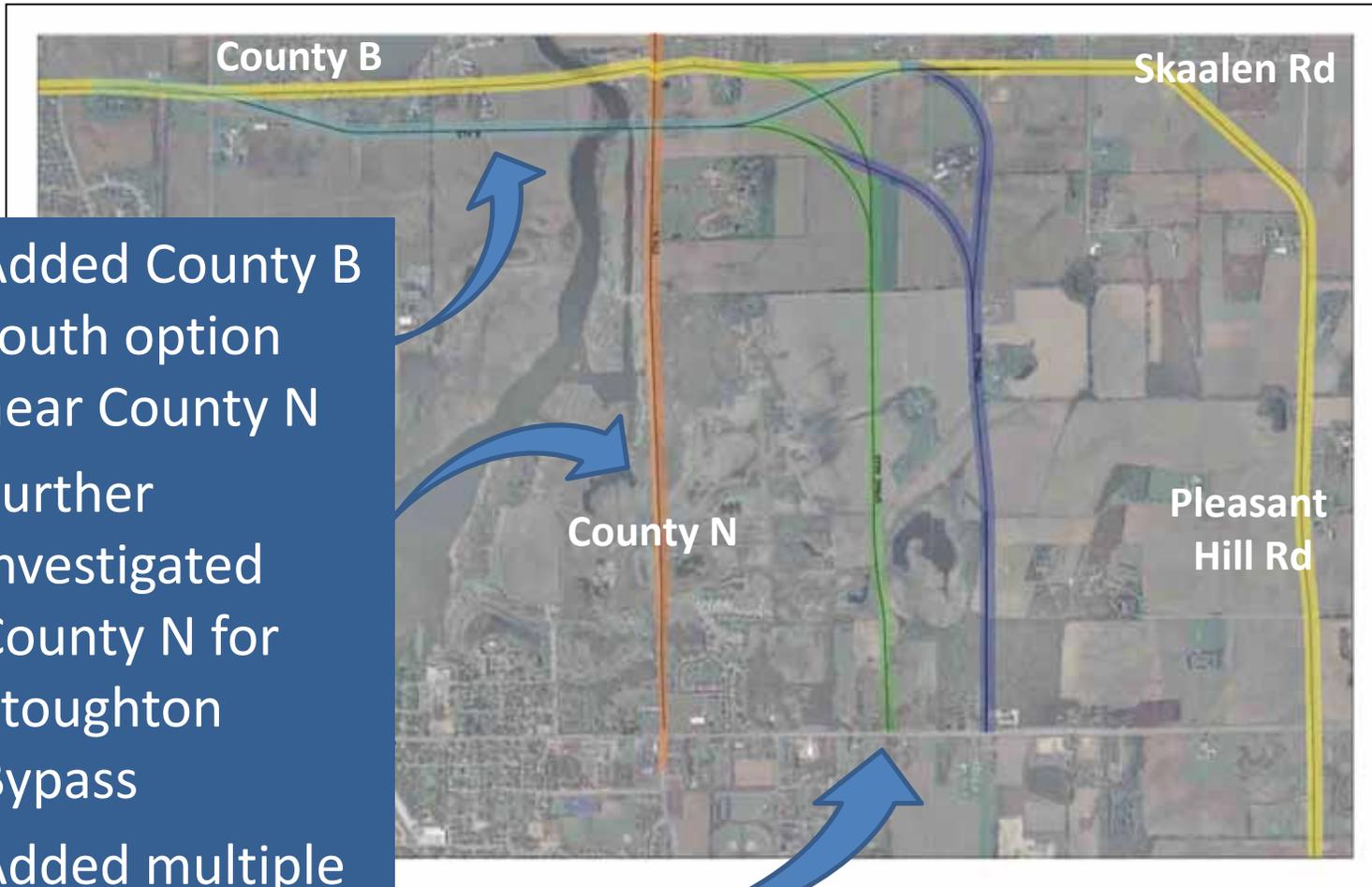
- 400 people attended May 2009 public meetings
- 150 written comments received
- Opposed to Skaalen /Pleasant Hill route
- Liked US 51 north interchange option
- Concerned about impacts and safety
- Suggested County B South route near Viking Park





## Key Additions Made After 2009 PIM

1. Added County B south option near County N
2. Further investigated County N for Stoughton Bypass
3. Added multiple alternatives east of County N

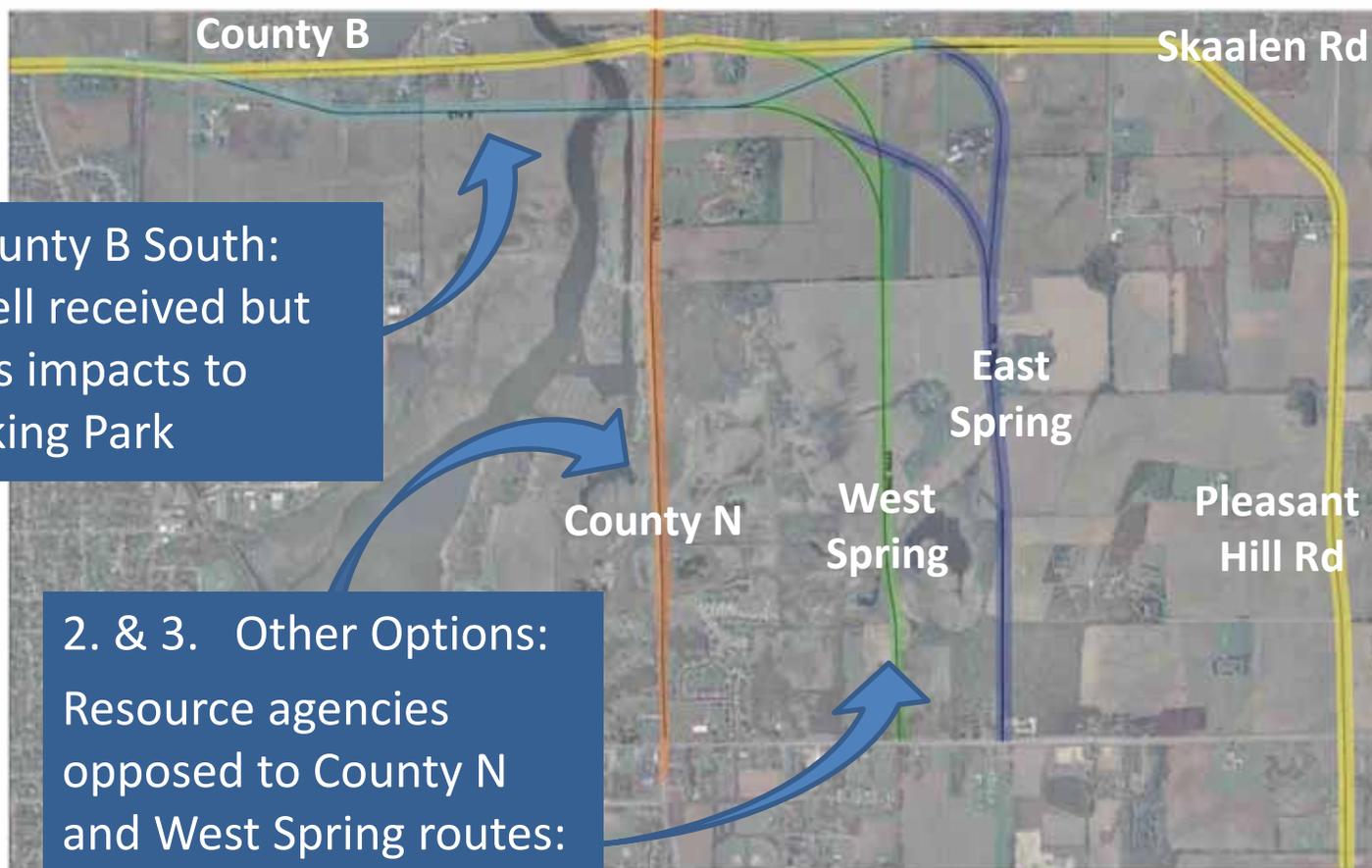




# Agency Responses to Additions

1. County B South:  
Well received but  
has impacts to  
Viking Park

2. & 3. Other Options:  
Resource agencies  
opposed to County N  
and West Spring routes:  
wetland impacts too  
great compared with  
other alternatives





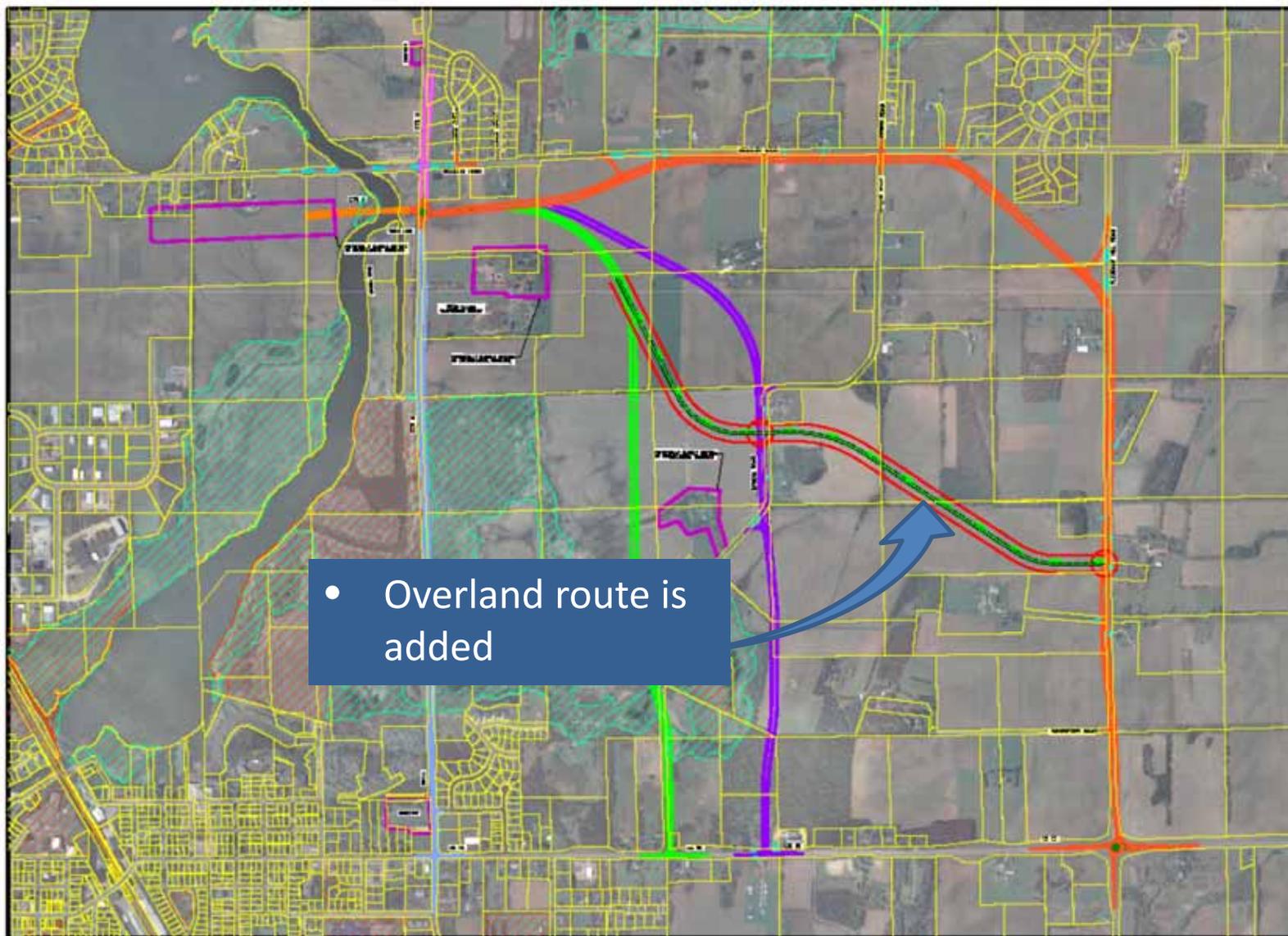
# Further Alternatives Considered

Were there other potential alternatives that should be considered?





# 5<sup>th</sup> Alternative “Overland” Added

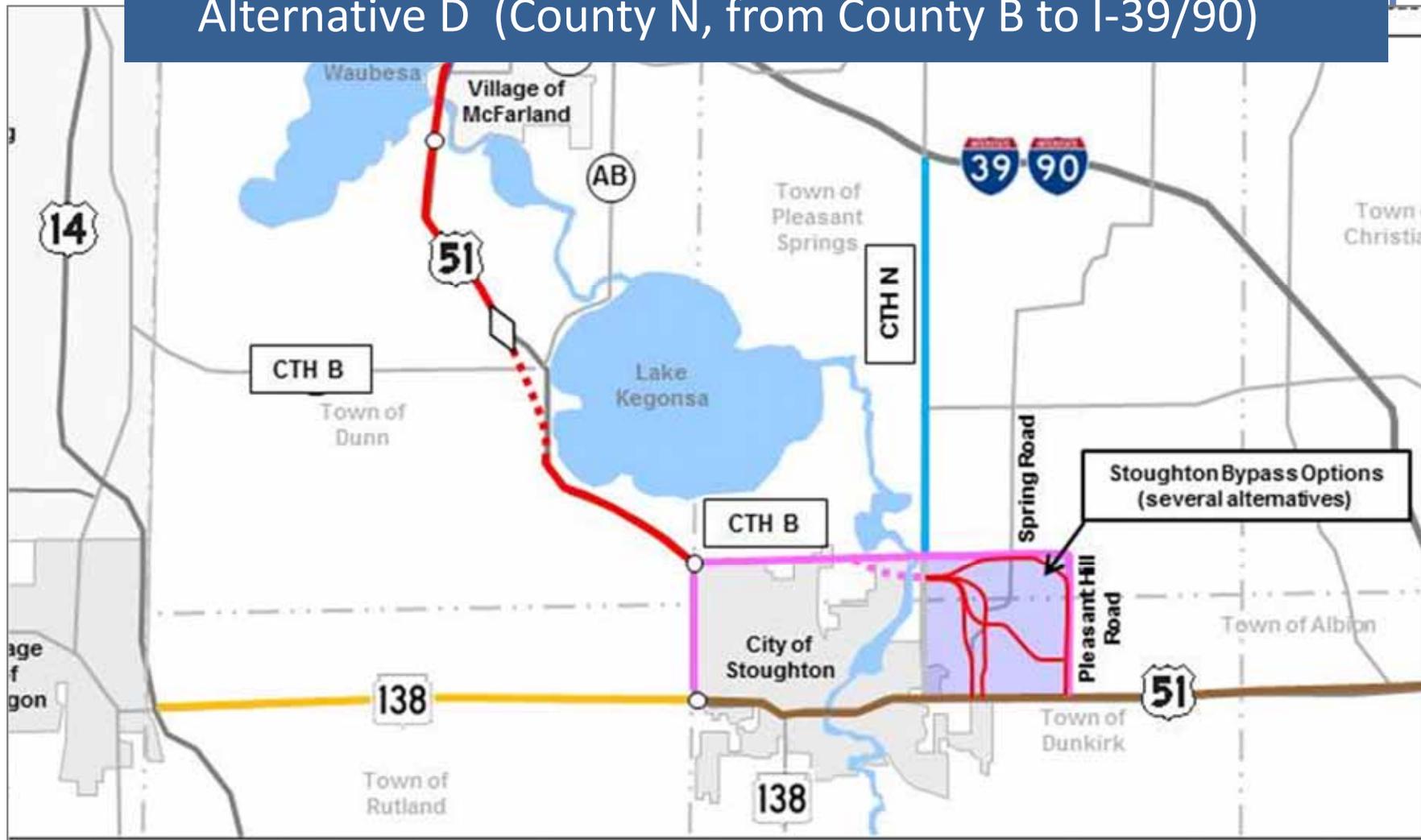


- Overland route is added



# Other Key Changes Made

- Dismissed Alternative C (WIS 138) and Alternative D (County N, from County B to I-39/90)





## Reasons to Dismiss C & D:

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- Alt C adds traffic to downtown Stoughton and Alt D adds traffic to Interstate
- If Alt C or D built, future operations on a 2-lane US 51 not significantly better than Low Build
- With Alt C & D, operations at 9 unsignalized intersections on US 51 are as poor as in Low Build
- Alts C & D will not provide same level of safety improvements as a 4-lane of US 51





## Reasons to Dismiss C & D:

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- Alts C & D do not draw enough traffic off US 51 to justify expanding them to 4-lane
- Even if 4-lane is built elsewhere, US 51 traffic still approaches 4-lane threshold

Note:

Alternative B (4-lane US 51) operates the best but it does have greater land and cost impacts





# Impacts Summary

- Environmental Resources, Right-of-Way, Relocations, Farm Impacts

WisDOT I.D. 5845-06-02  
April 13, 2011

Alternative Name		Alternative A	* Alternative B	Alternatives Being Dismissed		Stoughton Bypass
				Alternative C	Alternative D	
Alternative Schematic		Low Build				
Description		Spot intersection improvements, passing lane east of Stoughton	4-lane US 51	4-lane WS 138	4-lane County N	Included w/each 4-lane alternative
Project Length						
Length of 4-Lane Improvements	Miles	n/a	6.8	5.7	4.8	5.3 to 6.6
Preliminary Cost Estimate Fiscal Year 2011 Basis						
Preliminary Construction Cost	Millions	\$11 to \$15	\$43 to \$48	\$30 to \$35	\$25 to \$30	\$14 to \$25
Preliminary Real Estate Cost	Millions	\$1	\$11	\$8	\$7	\$7 to \$11
Total Preliminary Cost <sup>1</sup>	Millions	\$12 to \$16	\$54 to \$59	\$38 to \$43	\$32 to \$37	\$21 to \$36
Land Converted to R/W						Average values given
Agricultural Area	Acres	6	131	61	52	63
Wetlands Area	Acres	1	7	7	11	2
Upland Area	Acres	0	12	1	3	2
Other Area <sup>2</sup>	Acres	2	16	19	21	19
Total Area	Acres	10	166	88	87	86
Real Estate						
Residential Relocations	Number	1	10	11	5	3 to 10
Business Relocations	Number	0	3	0	0	1 to 2
Farm Building Impact <sup>3</sup>	Number	0	3	2	0	0



# Impacts Summary

- Environmental Resources, Right-of-Way, Relocations, Farm Impacts

WisDOT LD. 5845-06-02  
April 13, 2011

Stoughton Bypass Alternatives											
Alternative Schematic	Skaalen to Pleasant Hill		East Spring		West Spring		County N		Overland		
Description	County B	County B South	County B	County B South	County B	County B South	County B	County B South	County B	County B South	
<b>Project Length</b>											
Length of 4-Lane Improvements	Miles	6.6	6.6	6.0	5.7	5.6	5.4	5.4	5.3	6.3	6.2
<b>Preliminary Cost Estimate Fiscal Year 2011 Basis</b>											
Preliminary Construction Cost <sup>1,4</sup>	Millions	\$20 to \$25	\$19 to \$24	\$16 to \$20	\$15 to \$19	\$15 to \$19	\$14 to \$18	\$15 to \$19	\$15 to \$19	\$17 to \$21	\$17 to \$21
Preliminary Real Estate Cost	Millions	\$11	\$7	\$11	\$7	\$11	\$7	\$10	\$8	\$11	\$7
Total Preliminary Cost	Millions	\$31 to \$36	\$26 to \$31	\$27 to \$31	\$22 to \$26	\$26 to \$30	\$21 to \$25	\$25 to \$29	\$23 to 27	\$28 to \$32	\$24 to \$28
<b>Land Converted to R/W</b>											
Agricultural Area	Acres	58	82	52	70	47	66	25	48	79	99
Wetlands Area	Acres	0	1	0	1	1	3	4	5	0	1
Upland Area	Acres	2	2	6	4	1	1	2	2	1	1
Other Area <sup>2</sup>	Acres	21	13	21	14	25	18	29	23	18	11
Total Area	Acres	81	98	79	89	74	88	60	78	98	112
<b>Real Estate</b>											
Residential Relocations	Number	9	3	9	3	10	4	5	3	9	3
Business Relocations	Number	2	1	2	1	2	1	2	1	2	1
Farm Building Impact <sup>3</sup>	Number	0	0	0	0	0	0	0	0	0	0





# Other Key Changes Made



Low Build Alternative (2-lane with intersection improvements) more fully developed





# Other Key Changes Made



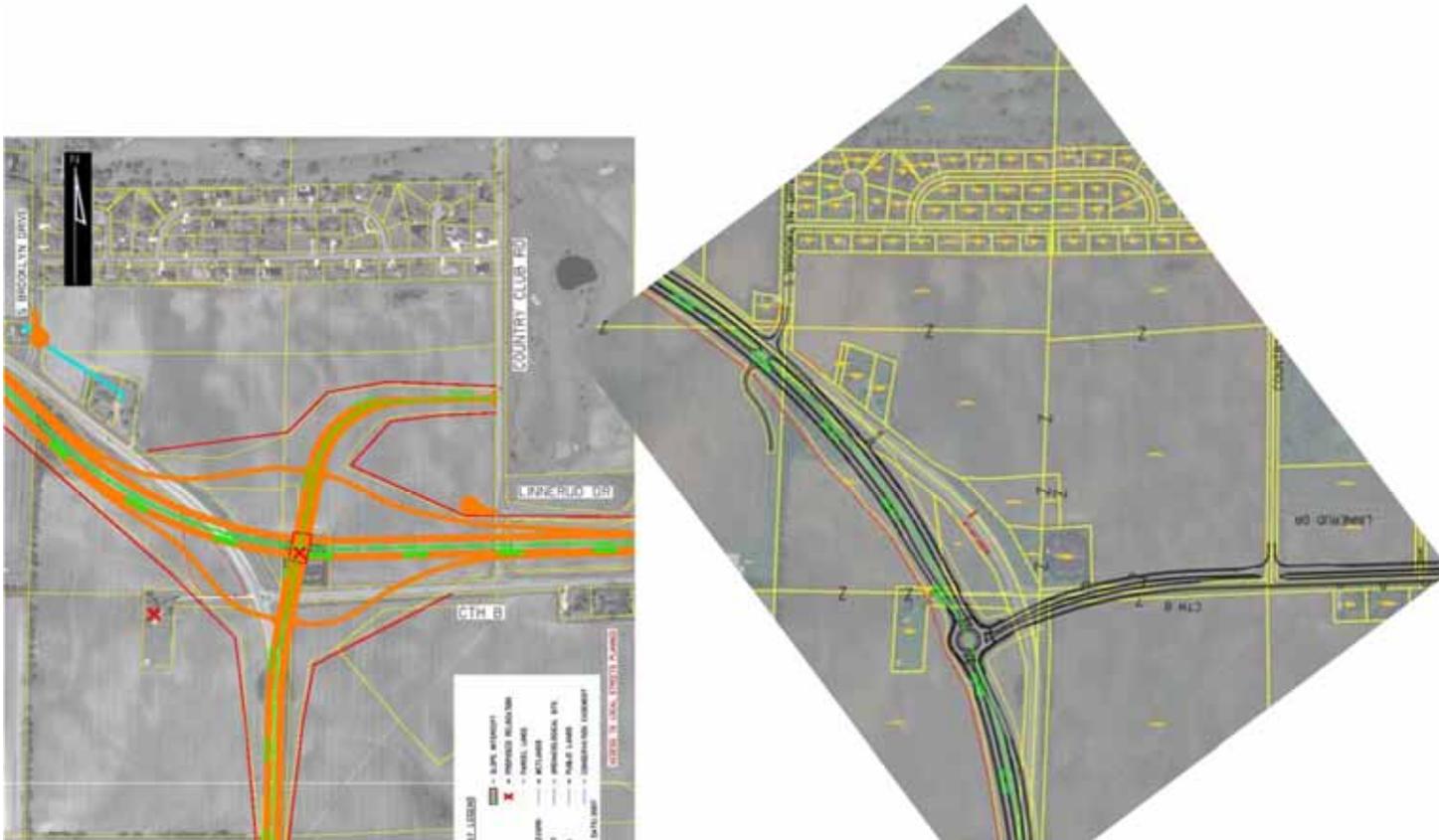
Alt B: North Interchange alignments refined

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# Other Key Changes Made

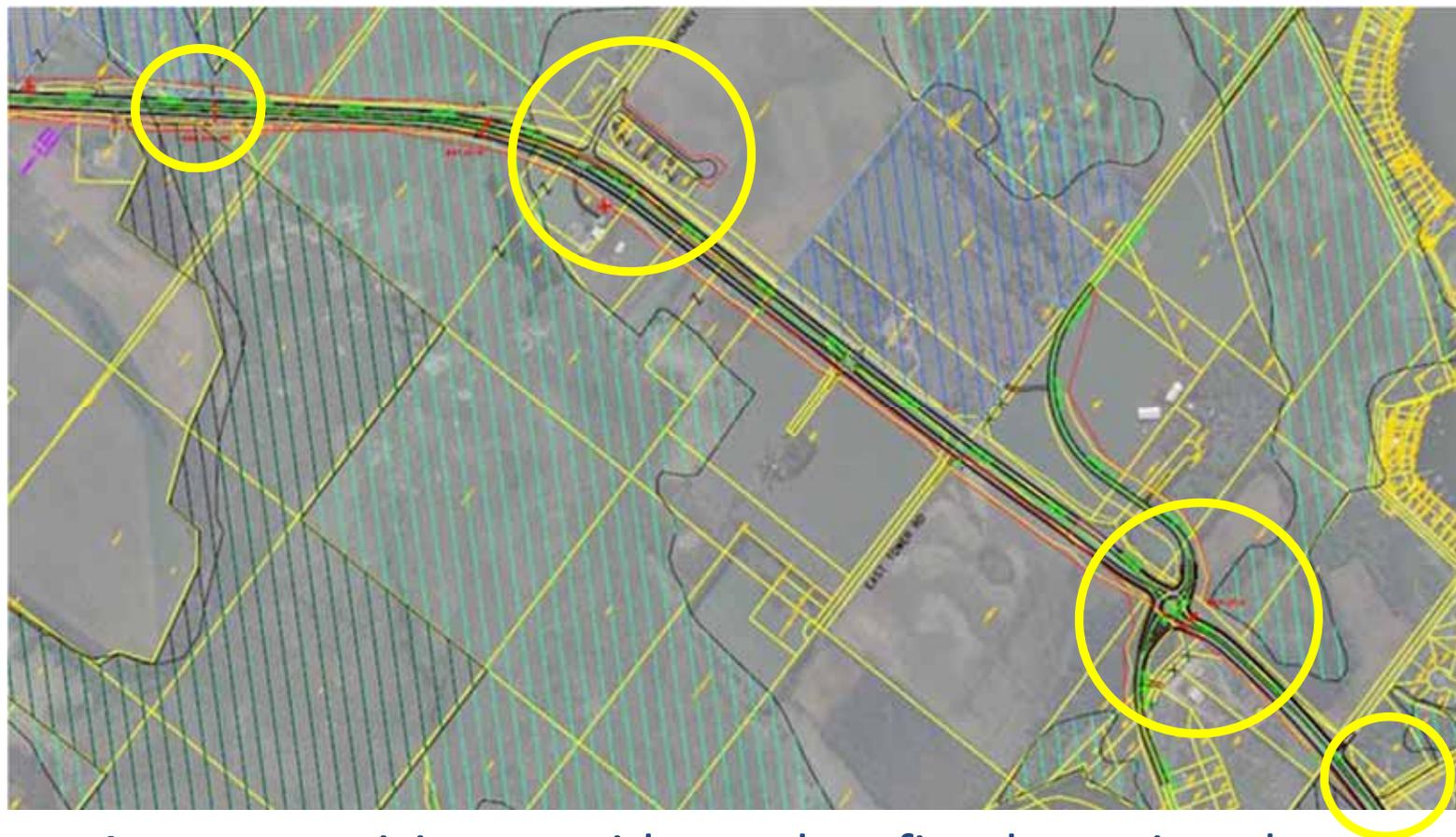


- Replaced the May 2009 interchange options with a multilane roundabout at US 51 and County B





## Other Key Changes Made

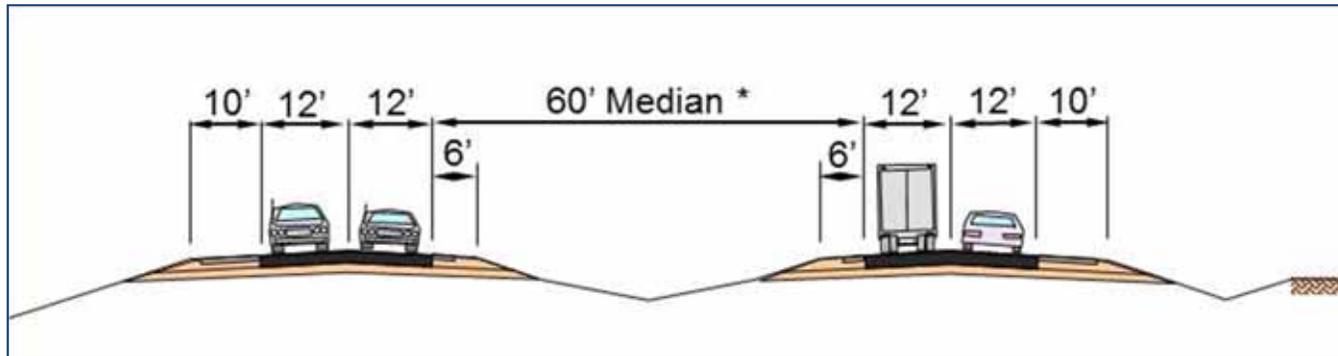


- Access provisions at side roads refined – various locations
- Alt. B: Bridge at Keenan's Creek added for wildlife access

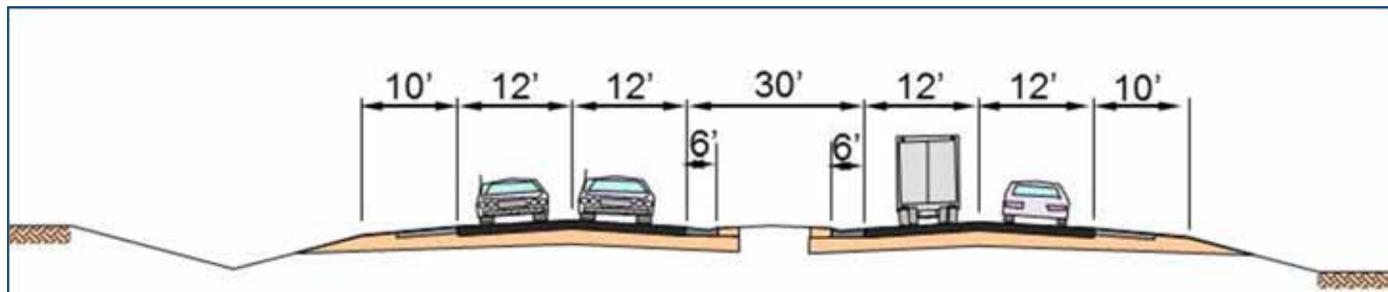




# Accommodations for bikes and pedestrians



- Rural 55 mph section: Stoughton to McFarland
- Bikes allowed on paved shoulder



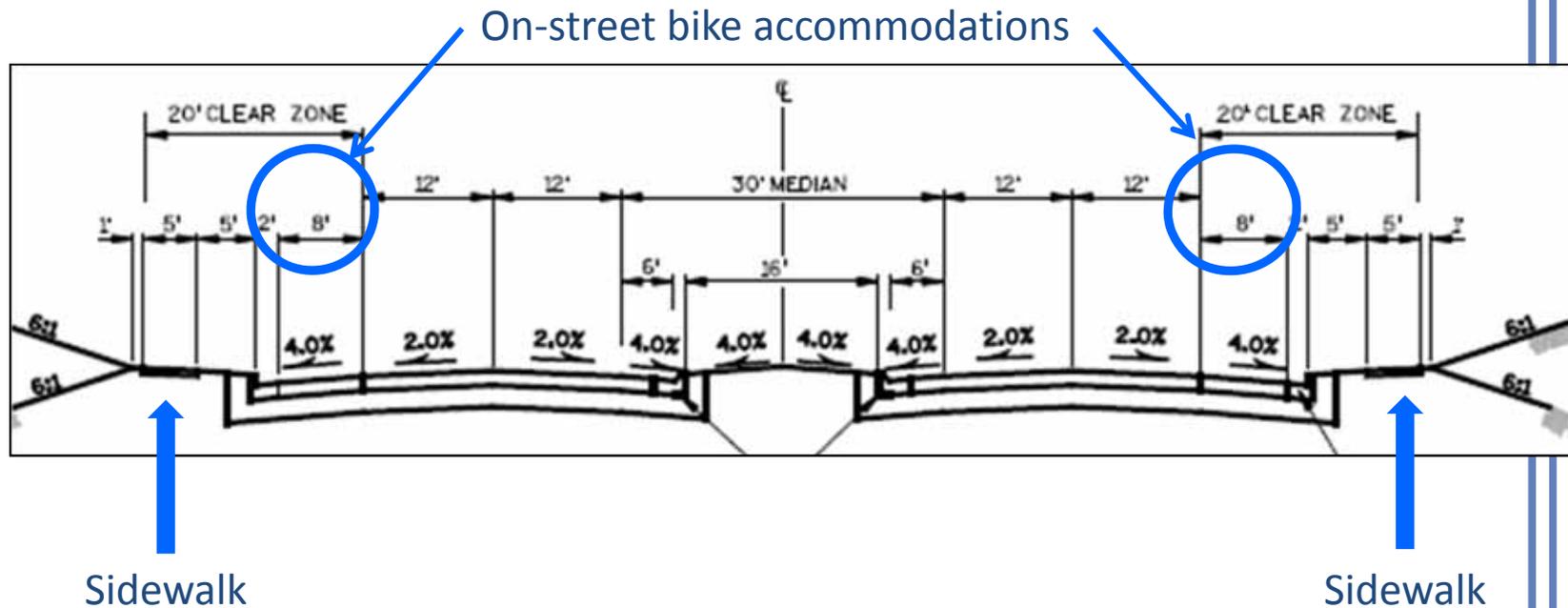
- Rural 45 mph section: Stoughton Bypass
- Bikes allowed on paved shoulder

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# Accommodations for bikes and pedestrians

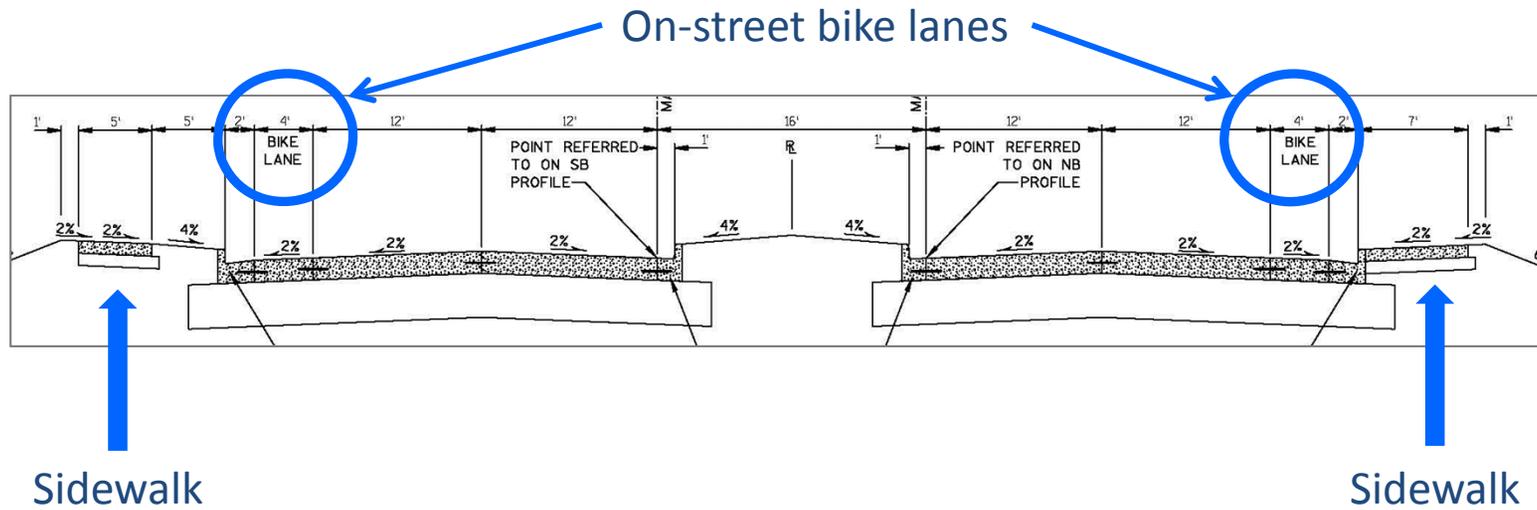


- High speed urban (45 mph) section - Stoughton





# Accommodations for bikes and pedestrians



- Low speed (40 mph) urban section - McFarland





## Next Steps: Project Schedule

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- Public information meeting – April 14, 2011
- Local Expert Panel meets to analyze and estimate future impacts of alternatives
- Draft Environmental Impact Statement (EIS)  
– Spring 2012
- Public Hearing – Spring 2012
- Final EIS / Record of Decision – Fall 2013





# Next Steps: Project Funding

No money allocated for construction at this time.

- Enumeration (funding) determined statewide after completion of environmental document
- After preferred alternative selected, WisDOT will continue to monitor safety and seek funding
- Interim safety improvements at selected intersections along US 51 may be considered for construction





# Conclusion

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We encourage you to speak with project staff about specific corridor or property impact questions.

Real Estate staff is available to answer questions.

Please let us know your comments via the Comment Forms provided.





# US 51 Corridor Study

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