



**Public Meeting/**

**Open House**

**April 15, 2013**

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**PROJECT P 0010(91)358 PCN 028U  
Roberts County**

**SD10 - Fm the west city limits to 458th Ave (8th Ave) East in  
Sisseton**

**Grading & PCC Surfacing, C&G, Lighting, Replace Str  
(RCBC)**

The South Dakota Department of Transportation provides services without regard to race, color, gender, religion, national origin, age or disability, according to the provisions contained in SDCL 20-13, Title VI of the Civil Rights Act of 1964, the Rehabilitation Act of 1973, as amended, the Americans With Disabilities Act of 1990 and Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, 1994.

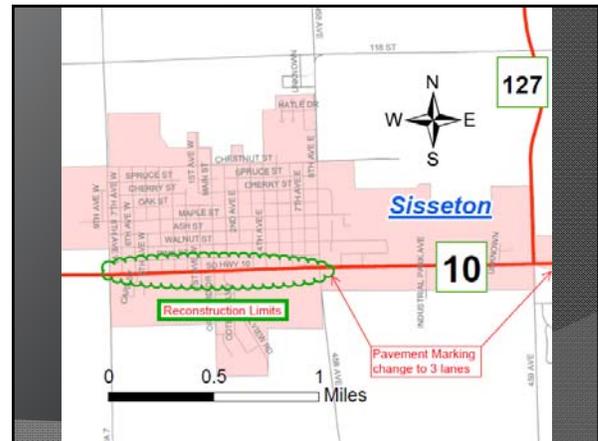
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## Sisseton Public Meeting

### SD10 Reconstruction

Mark Malone, P.E.  
SD DOT



## SD10 Grading & Surfacing

- From 8<sup>th</sup> Ave W to 8<sup>th</sup> Ave E
  - 1 mile plus transition lengths
- Complete Urban Reconstruction
  - Grading, C&G, Storm Sewer, Sidewalk, Concrete Surfacing
  - Railroad Crossing Upgrade
  - Lighting
  - Traffic Signal OR Roundabout (8<sup>th</sup> St E)

## Why Reconstruction?

- 3 Variables to Consider
  - Pavement Condition - Poor
    - Originally constructed in 1961
    - Last Resurfaced in 1989
  - Capacity
  - Safety

## Why are we here?

- To discuss SD10 through Sisseton
- To involve public in the design process
- Exchange ideas – listen and discuss concerns

## Right of Way

- The project will utilize existing ROW
- Temporary Construction Impacts
- Acquisitions may be necessary for lighting and at intersections
  - This will be discussed in more detail at individual Landowner Meetings

## Encroachments

- Encroachments within the public Right of Way need to be addressed prior to Construction
  - Federal Highway Regulations
  - Safety
  - Consistency Statewide
- Landowners with encroachments will be notified by SDDOT

## Landowner Meetings

- Approximately 1 year from now
- Applicable to all affected Landowners
- You will be contacted by SDDOT
- Discuss your property in particular
  - Design details such as driveway location or width, fence, etc.
- Right of way process to follow

## Construction

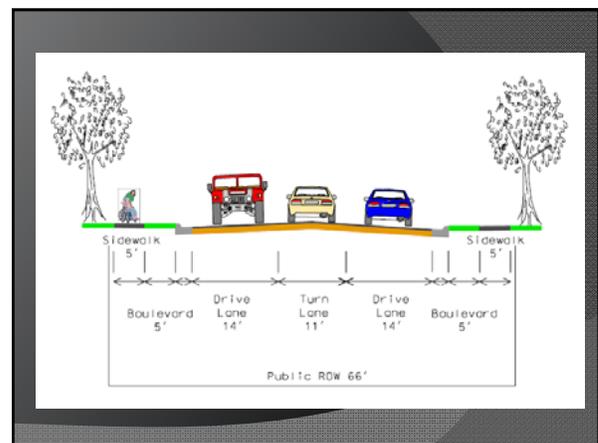
- Construction to begin in 2017
  - Pending Funding & Scheduling
  - 1 construction season
  - SDDOT will obtain additional public comment
- Sequencing options being reviewed
  - Maintain Two-Way Traffic OR Block Closures
  - Access to businesses will be maintained

## Existing Conditions (SD10)

- 4 – 12' Traffic Lanes
- Some Curbside sidewalk
- ROW width = 66' or greater
- Roadway Lighting (poor condition)
- Average Daily Traffic (ADT) – 7,090
  - 20 year projected ADT – 8,225

## Proposed Typical Section

- 2 - 14' Lanes & 1 – 11' Center Turn Lane
- Curb & Gutter
- New Storm Sewer
- Boulevard Sidewalk
- Lighting
- No Parking
- Access Management
- Change in pavement markings from 8<sup>th</sup> St E to east of SD127 (4 lanes to 3 lanes)



## Advantages of 3 vs 4 Lanes

- Vehicles
  - Provide safe storage for left turning vehicles
  - Reduce number of conflict points for left turn vehicles and vehicles entering the roadway
  - Reduces Speed Differential
  - Traffic Calming
  - Snow Storage in Boulevards

## Advantages of 3 vs 4 Lanes contd.

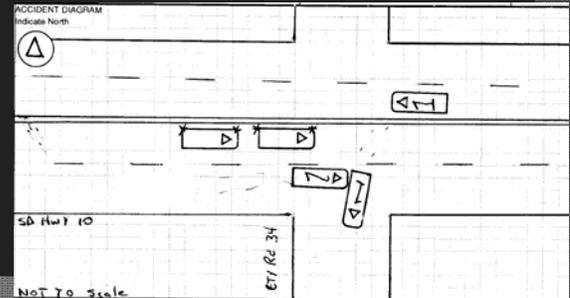
- Pedestrian
  - Reduce crossing distance
  - Reduce top end travel speed (traffic calming)
  - Buffer sidewalk from travel lanes
  - Improve Safety
- General
  - Improved Green Space
  - Improved Aesthetics

## Accident Data in Sisseton 2010-2012

- Weighted crash rate = 6.23 (crash rate using point system per million vehicle miles travelled)
  - Statewide average for this roadway type = 1.90
  - 36 total crashes
    - 11 Injury crashes
- At a minimum, 16/36 crashes could be avoided with the 3 lane roadway
  - 5 of these were injury accidents
  - Weighted crash rate without these 16 crashes = 3.43

## Accident Reduction Types

- Hidden vehicle in far lane – 3 times



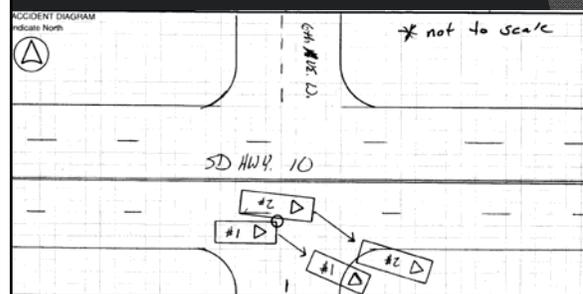
## Accident Reduction Types

- Rear ending a left turning vehicle – 4 times



## Accident Reduction Types

- Sideswipe vehicle in blind spot – 7 times



## Examples of 3 lane Sections

- 3 Lane Section can be safe and efficient up to 20,000+ vehicles/day
  - US12 in Milbank – 8000 ADT
  - Melgaard Rd from 5<sup>th</sup> St to Dakota St in Aberdeen – 8000 ADT
  - Roosevelt St from 6<sup>th</sup> Ave to 8<sup>th</sup> Ave in Aberdeen – 8200 ADT
  - 18<sup>th</sup> St in Sioux Falls in front of Sanford – 18,000 ADT

## Milbank

- Changed from 4 to 3 lanes in 2005
- Currently has up to 8,000 veh./day
- Total accidents decreased from 99 to 37 (63% reduction)
  - 99 accidents from 2000-2002 and 37 from 2006-2008

## QUESTIONS ON 4 LANE TO 3 LANE CONVERSION?

## Intersection of SD10 & 8<sup>th</sup> St E

- Traffic analysis performed
  - Existing 2 way stop controlled
    - Unacceptable level of service
  - 4 way stop controlled
    - Unacceptable level of service
  - Traffic Signal
    - Viable Option
  - Roundabout
    - Viable Option

## Signal Layout



## Roundabout Layout







## Pedestrians

- Peds
  - Shorter crossing paths
  - Consider one direction of travel at a time (1/2 of this particular design)
  - Refuge between lanes (1/2 of this particular design)
  - Lower vehicle speeds
    - Vehicle speeds predict both the frequency as well as the severity of pedestrian injuries.

## Bicycle Accommodations

- Shared lanes should end in advance of roundabout
- Cyclists may act as a vehicle or a pedestrian



## Emergency Vehicles

- How do I allow emergency vehicles to get around me?
  - #1 Rule
    - Don't stop in the roundabout
  - #2 Rule
    - Don't stop in the roundabout
  - Pull over prior to the roundabout or past the roundabout to let emergency vehicles pass

## Intersection Existing Crash Data

- 5 from 2010-2012
  - 2 injury crashes
- 14 crashes since 2004
  - 6 injury crashes
  - Indicates consistency
- Predictive crash methodology (Highway Safety Manual)
  - 1.03 crash/year (lower than existing crash rate)

## Roundabout Safety Facts

- According to Federal Highway Administration Intersection Statistics
  - 90% reduction in fatalities
  - 76% reduction in injuries
  - 35% reduction in all crashes
- Single Lane Roundabouts are the safest at-grade intersection possible

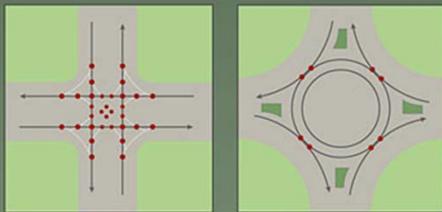
## Roundabout Crash Analysis

- Predictive Methodology – Highway Safety Manual
  - Use Existing Geometry and predicted crash numbers (1.03 crash/year)
  - Crash Modification Factor – 0.61
  - Anticipated crashes – 0.63 crash/year
  - Compare to existing crash data - ~1.6 crash/year
- Anticipate reduction to ~1 crash per year

## Crash Analysis – Sioux Falls Roundabouts

- Career Avenue University Center Roundabout
  - Opened in November 2008
  - 2,800 vehicles are entering daily
  - 0 crashes to date
- 69<sup>th</sup> Street and Southeastern Avenue Roundabout
  - Opened in August 2011
  - 4,200 vehicles are entering daily
  - 1 crash meeting State reporting thresholds to date
    - 1 single vehicle crash - DUI

With roundabouts, head-on and high-speed right angle collisions are virtually eliminated.



[ Traditional intersection ]

[ Roundabout ]

● Potential vehicle conflict point

32 conflict points

8 conflict points

## Traffic Signal Crash Statistics

- Statewide Avg – 1.0 crash/million vehicles entering
  - Sioux Falls – 0.8 crash/million vehicles entering
- 9,920 veh/day entering (existing volumes)
  - Anticipated Crashes = 3.6 crashes per year
- 11,510 vehicles/day entering (20 year ADT)
  - 20 Year Anticipated Crashes = 4.2 crashes per year

## Construction Impact Differences



## ROW Impact Differences

- Initial ROW research indicates little or no additional ROW acquisition will be necessary.
- This is true for a signal AND a roundabout.

## Traffic Signal Advantages

- ◉ Driver expectancy
- ◉ Snow plowing easier
- ◉ Visually impaired pedestrians – easier
- ◉ LOS A
- ◉ Less ROW impacts

## Signal vs Roundabout

- ◉ Roundabout easier for able-bodied pedestrians
  - Worry about 1 direction of traffic
  - Shorter crossing distance
- ◉ Lower Speeds in Roundabout
  - Rarely stopped – always moving
- ◉ Level of Service – A for both (20 yr projected ADT)
  - Avg additional delay of 2.5 sec/veh for a signal
  - 2,652 hrs/year

## Signal vs Roundabout

- ◉ Predictive Safety – minor leg stop control to roundabout
  - Benefit \$2.536M (40 yr life cycle)
- ◉ Initial Construction cost difference - \$25,000 more for roundabout (ROW not included)

## Signal Maintenance Costs

### City Expense

- ◉ Total Costs to the city of Sisseton are going to average \$3,000-\$5000 per year
  - ◉ Signal Parts
    - Controller – 5 year life
      - \$3,500
    - Load Switches – 3-5 year life
      - \$350 ea – signal has 10
    - Power Source – 5 year life
      - \$800
    - Detector Units – 5-8 year life
      - \$350 – signal has 4
    - Management Malfunction Unit – 5 year life
      - \$1,000
    - On-Site technical support
      - \$2,000 service call per visit
  - ◉ Electricity Costs

## Environmental, Social & Economic Concerns

- ◉ Section 4(f) Property
  - Project action will include all possible planning to avoid and minimize harm to publicly owned parks, recreational areas, wildlife & waterfowl refuges, or public & private historical sites.
- ◉ Section 106
  - Section 106 of the National Historic Preservation Act requires Federal actions to take into account the effects of project undertakings on historic properties.
- ◉ Contaminated Materials
  - Project undertaking will take into account contaminated soils with relation to existing aboveground and underground storage tanks within or adjacent to project's area of potential effect.
- ◉ Wetlands
  - Federal regulations require that unavoidable wetland impacts caused by highway construction be mitigated. If you are interested in creating or restoring wetlands on your property, please complete the Wetland Mitigation Registry Form in the handouts.

## SDDOT Preferred Alternatives

- ◉ 3 lanes of traffic
- ◉ Roundabout
  - Alternate is traffic signal
- ◉ WHY?
  - Safety
  - Operational level of service
  - Life cycle cost analysis
- ◉ SDDOT would like your input

Website

[http://sddot.com/dot/publicmeetings/pubmeet\\_sd10sisseton.aspx](http://sddot.com/dot/publicmeetings/pubmeet_sd10sisseton.aspx)

Comments Due Fri. **April 26, 2011**

Mail - 700 E Broadway Ave Pierre, SD 57501

Email - [mark.malone@state.sd.us](mailto:mark.malone@state.sd.us)

Questions?



## Environmental, Social & Economic Impacts

and

## Advanced Utility Coordination

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### Environmental, Social & Economic Impacts

- Project will comply with all state and federal environmental regulations
- Project will be coordinated with the following state and federal agencies:
  - SD Dept. of Environment & Natural Resources
  - SD Dept. of Game, Fish & Parks
  - US Fish & Wildlife Service
  - State Historic Preservation Office
  - No splitting of neighborhoods will occur as a result of this project

- For additional information, please contact :

Terry Keller, Engineer Supervisor  
SDDOT Project Development Office  
700 E. Broadway Ave.  
Pierre SD 57501

Phone: 773-3721 E-Mail: [Terry.Keller@state.sd.us](mailto:Terry.Keller@state.sd.us)

### Advanced Utility Coordination

- Highway projects may require adjustments or relocation of existing utilities located along or crossing the highway project. The SDDOT has an "Advanced Utility Coordinating Process" in place that addresses all existing utility involvement. This process involves meeting with the utility owner and project designers to **review** any conflicts and determine the most cost effective option of changing the design to avoid the existing utility or adjusting the utility. If the utility is required to relocate, all replacement utility easement acquisition and relocation work will be addressed and coordinated between the landowner and the utility company.

- For additional information please contact:

Dave Hausmann, Utility Coordinator  
SDDOT Project Development Office  
700 E. Broadway Ave.  
Pierre, SD 57501

Phone 605-773-6593; E-Mail: [Dave.Hausmann@state.sd.us](mailto:Dave.Hausmann@state.sd.us)



## Wetland Mitigation Registry Form

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Federal regulations require that unavoidable wetland impacts caused by highway construction be mitigated. Wetland mitigations may be from 1) wetland creation – typically, at a borrow pit; 2) wetland restoration – plugging an existing, drained wetland; or, 3) by small dam construction.

The South Dakota Department of Transportation (SDDOT) may participate in the cost of wetland creation/restoration, if the wetland can be used to mitigate wetland impacts caused by highway construction.

If you are interested in creating or restoring wetlands on your property, please complete the attached form and mail to: Terry Keller, Engineering Supervisor SDDOT, and 700 E. Broadway Ave., Pierre, SD 57501. Your name will be added to the SDDOT Wetland Mitigation Registry and a SDDOT representative will contact you with additional information.

**Yes, I am interested in assisting the SDDOT to mitigate wetland impacts by creating or restoring wetlands on my property.**

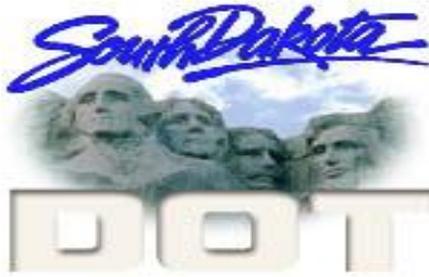
**Name:** \_\_\_\_\_

**Address:** \_\_\_\_\_

**Phone #:** \_\_\_\_\_

**Legal Description of property:** \_\_\_\_\_ 1/4 of Section \_\_\_\_\_  
**Township** \_\_\_\_\_, **Range** \_\_\_\_\_, **County** \_\_\_\_\_

**Please note:** Completion of this form does not commit either you or the SDDOT to a mitigation project. It is a statement of intent only.



## Right of Way Information

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**Individual Landowner Meetings:** During the early stages of the project's design, SDDOT will schedule a meeting with individual landowners having property adjacent to the project. See the following page for an explanation of the landowner meeting.

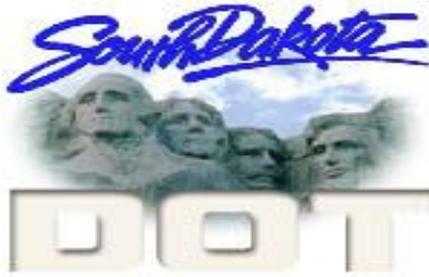
**Property Acquisition Offer:** After the project construction plans have been prepared and the right of way limits have been established, you will be contacted by an appraiser or negotiations agent to visit with you for that portion of your property that is needed for construction of the project. Your property will be valued and a written offer presented to you by a negotiating agent who will contact you for an appointment to make the written offer.

**Relocation Assistance Program:** This program provides a variety of services and payments to owners and tenants who have personal property affected by the right of way being acquired for the project.

Relocation payments are in addition to payments made for the real property being acquired. To preserve your eligibility for payments, do not move property until you have received a written relocation offer or have contacted Andrew J. 'Andy' Jackson of the SDDOT Right of Way Program in Pierre. His phone number is 773-2911. Anyone not satisfied with the relocation offer made to them may appeal using the procedures described in the Relocation Brochure.

The landowner may be reimbursed for various fair and reasonable incidental expenses that may be incurred during the transfer of property to the State depending on impacts to personal property and qualifications.

**Right of Way Information Brochures:** Two brochures have been prepared which explain the SDDOT's Right of Way process. They provide information on your rights regarding the acquisition of your property and the benefits available to you with regard to the Relocation Assistance Program. These brochures are available at this meeting on the "Sign-in" table. Please feel free to take a copy of each with you.



## Individual Landowner Meetings

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The purpose of this meeting is to provide you with an opportunity to comment on various issues pertaining to the design of this highway project as it relates to your property.

The following topics will be discussed at the meetings. Please note that not all topics will apply to every property owner.

1. Permanent purchase and/or temporary use of your property.
2. Locations and widths of entrances to your property: The standard South Dakota Department of Transportation (SDDOT) entrance-width for rural highways is 24 feet. Note: In general, existing entrance widths along rural State Highways are 24 feet or smaller. A maximum width of 40 feet is allowed at locations where it is deemed appropriate and necessary. Entrances in urban areas can vary from 16 feet to 40 feet.

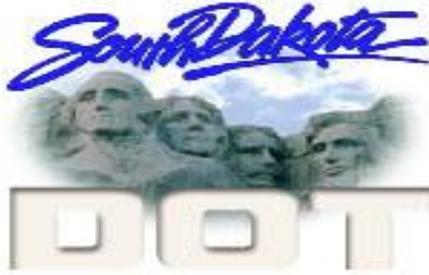
The goal of the SDDOT is to provide property owners located adjacent to the project with the access they need, and at the same time, enhance highway safety and reduce project costs. In some instances, the SDDOT may seek to combine duplicate entrances. For example, if your property has two or three entrances to the same property that are located close to each other, we would ask you to assess your current entrance needs and consider one entrance location that will meet those needs.

3. Permanent fencing adjacent to the highway: SDDOT's fencing policy allows for the replacement of all disturbed fence with like-kind fence.

Two fence types are typically installed: **Type 2:** 4-strand barbed wire with 8-inch wire spacing, and **Type 6:** 32-inch woven wire with 1 strand of barbed wire on the bottom and 2 strands of barbed wire on the top. Page 12 of the "Better Roads Brochure" contains added discussion of your permanent fencing options. This brochure will be available at the meeting.

4. Temporary fencing adjacent to the highway: Do you anticipate having livestock in pastures located adjacent to the proposed project during highway construction activities?
5. Are you aware of any waterlines, drainfields, septic tanks, underground storage tanks, underground power lines, etc. that are located adjacent to the project and may be impacted by construction activities?
6. Are there any highway-related drainage or flooding problems located along your property or elsewhere along this section of highway?
7. Possible sites for gravel and additional fill material: Are you aware of potential material available for construction that might be located adjacent to the highway?
8. Temporary access during construction activities.

Please review your property and be prepared to discuss the above issues, as well as any other issues that you feel are unique to your property. No offers to acquire property will be made at these meetings since revisions to the plans may occur from your input.



## Access Management

South Dakota's Commitment to Safety and Smart Investment Decisions In Transportation

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### What is Access Management?

*Access Management* is the process of providing highway entrances only at locations where they can be provided safely and efficiently.

Consider that each access point added to an undivided highway in an urban or suburban area increases the annual accident rate by 11 to 18 percent on that highway segment. In rural areas, each added access point increases the annual accident rate by 7 percent. Overall, driveway-access accidents alone cost South Dakota approximately \$36.5 million each year.

Each additional access point also contributes to congestion. The more driveways on a street the more places where people are slowing, changing lanes and turning. A five-lane street can quickly become a parking lot when there are many driveways in each block. When that happens, our valuable transportation investments are wasted and access to adjacent businesses is restricted.

**Controlled access facilities** are segments of highway where either no access or only limited access to the highway is allowed. Interstate highways are an example of controlled access facilities where no access to the highway is allowed.

Good access depends on the following:

- Limiting the number of conflict points (places where there is a potential for crashes)
- Separating conflict areas
- Reducing interference with through traffic
- Providing good on-site circulation and storage
- Properly spaced traffic signals

### How does Access Management affect businesses?

Studies have shown that access management can provide three benefits to businesses adjacent to highways:

- Making sure that drivers can get in and out of businesses without being blocked by other traffic
- Making the highway more attractive by reducing congestion
- Extending the business' effective service area by reducing travel times

These benefits come not from having many driveways, but by having well-planned, well-located, high-capacity access points on the highway.

Even skeptical business owners have found that proper access management results in an improved business climate, as customers can easily get in and out of their business establishment.

### For more information on Access Management, contact:

(East River) Brooke White, SDDOT Access Management Engineer, 5316 W. 60<sup>th</sup> St. Sioux Falls, SD 57107 Phone: 605-367-4970 Ext. 2114; E-Mail: [Brooke.White@state.sd.us](mailto:Brooke.White@state.sd.us)

