Mendenhall Loop Road Capacity Improvements

Open House

July 8, 2014

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Meeting Agenda

- Welcome and Project Overview
  - Purpose and Need
  - Timeline
  - Goals and Objectives
  - Overview of Issues, Challenges, and Opportunities
  - Public Involvement Summary

- Corridor Concepts Overview
  - Concept Development
  - Concept Evaluation

- Q&A

- Summary of What We’ve Heard
Project Purpose & Need

- Improve the vehicular capacity on Mendenhall Loop Road
  - Nancy Street to Back Loop

- Provide efficient pedestrian and bicycle facilities
  - Crossings
  - Longitudinal treatments

- Identify feasible, cost-effective treatments to improve safety
Project Timeline

▷ Analysis & Design Concepts
  ▪ Summer 2013 – Summer 2014

▷ Environmental Process & Engineering Design
  ▪ Winter 2014 – Fall 2015

▷ Bidding/Contractor Selection
  ▪ Winter 2015/2016

▷ Construction
  ▪ Spring 2016 – Fall 2016
Project Goals & Objectives

Mendenhall Loop Road Corridor Features
- Provide sufficient vehicular capacity along the corridor
- Minimize conflicts
- Provide safe and effective pedestrian crossings
- Provide safe and effective bicycle and pedestrian facilities

Community and Stakeholder Involvement
- Acceptance of improvements
- Minimize Impacts
- Provide flexibility

Plan Implementation
- Identify cost effective improvements
- Potential to phase improvements over time
Corridor Overview
Corridor Overview - Character

- Serves as major commute route
  - Connects residential areas to Egan Drive

- Serves local destinations
  - Glacier Valley Elementary School
  - Floyd Dryden Middle School
  - Mendenhall Glacier Visitor Center
  - Churches
  - Movie theater and commercial uses

- Important link in bicycle network
  - Partial shoulder bike lanes
  - Multiuse path on both sides
Corridor Overview - Challenges

- Peak hour/direction vehicle congestion
- Difficulty exiting side streets, including Floyd Dryden and Nancy Street
- Conflict areas throughout corridor
- Crash history at signalized intersections
- Pedestrian and bicycle crossing spacing
November Open House & Advisory Group Meeting

Most Frequently Discussed

- Stephen Richards intersection
  - Congestion
  - Alignment
- Nancy Street intersection
  - Difficult egress
- Floyd Dryden Access
  - Pedestrian crossing
  - Difficult egress
  - Short Way access
- Mendenhall/Valley intersection
  - Turning bay lengths
  - Alignment
- Snow removal
- Riverside stop signs

- Avoid corridor widening
  - Crossing distance
  - Right-of-way/noise impacts
  - Targeted widening
  - Roundabouts
- Safe crossings for pedestrians
- Bicycle lanes
  - Essential for commuters
- Multiuse paths
  - Driveway conflicts
  - Young users
- Bus stop access
  - Crossing difficulty
- Plan calls for 35 mph boulevard
Corridor Concepts

- Two concept “families”
  - Concept A Family: Corridor Widening
    - Five- and three-lane cross sections
    - Presented at Advisory Group and Open House on November 6, 2013
    - Concern over widening impacts
  - Concept B Family: Intersection Widening
    - Developed in response to public comments
    - Targeted widening at Stephen Richards
    - Includes signals and/or roundabouts
Corridor Concept A Family Summary

Three corridor-level concepts
- 5-lane and 3-lane cross sections
- Concepts vary by where the transition from 5 lanes to 3 lanes takes place
- All serve projected peak traffic demand

Concept A1: Transition north of Stephen Richards/Haloff Way
Concept A2: Transition north of Floyd Dryden Access
Concept A3: Transition north of Mendenhall/Valley

Primary differentiators
- Right-of-way impacts and cost of additional widening
- Pedestrian crossing distance and time
Corridor Concept A Elements

- Widen to five-lanes from Nancy Street north
- Transition to three-lanes vary from Stephen Richards to Mendenhall/Valley by concept
- Enhanced street lighting at intersections and crossings
- Access management to reduce driveway conflicts
- Additional bus pullouts and shelters
- Intersection improvements
Existing Cross Sections

EXISTING 3-LANE AT STEPHEN RICHARDS/HALOFF WAY

54' TYPICAL ROADWAY WIDTH
120' TYPICAL RIGHT-OF-WAY WIDTH

EXISTING 2-LANE AT BACK LOOP

44' TYPICAL ROADWAY WIDTH
120' TYPICAL RIGHT-OF-WAY WIDTH
Proposed Concept A Cross Sections

PROPOSED 5-LANE SECTION W/ TWO-WAY LEFT TURN LANE

70-73' TYPICAL ROADWAY WIDTH

120' TYPICAL RIGHT-OF-WAY WIDTH

PROPOSED 3-LANE SECTION WITH TWO-WAY LEFT TURN LANE

54' TYPICAL ROADWAY WIDTH

120' TYPICAL RIGHT-OF-WAY WIDTH
Concept A3 – Five Lanes With Transition North of Mendenhall Blvd/Valley Blvd
Concept A3 – Five Lanes With Transition North of Mendenhall Blvd/Valley Blvd
Concept A3 – Five Lanes With Transition North of Mendenhall Blvd/Valley Blvd
Concept A3 – Five Lanes With Transition North of Mendenhall Blvd/Valley Blvd

Notes:
1. Enhance existing illumination with additional luminaires located at intersections and pedestrian crossing locations.
Concept A3 – Five Lanes With Transition North of Mendenhall Blvd/Valley Blvd

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Concept A3 – Five Lanes With Transition North of Mendenhall Blvd/Valley Blvd

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Corridor Concept B Summary

Four corridor-level concepts
- Three-lane cross section with targeted widening at intersections
- Include expanded intersections and up to three roundabouts
- All serve projected peak traffic demand

- Concept B1: Expanded Stephen Richards signalized intersection
- Concept B2: Roundabout at Stephen Richards
- Concept B3: Roundabouts at Stephen Richards and Floyd Dryden
- Concept B4: Roundabouts at Stephen Richards, Floyd Dryden, and Mendenhall/Valley

Primary differentiators
- Intersection traffic control
- Roundabout right-of-way impacts
- Floyd Dryden intersection operations
Roundabouts vs. Traffic Signals

» Traffic Operations
  ▪ Improve efficiency by reducing delay and number of stops
  ▪ Make vehicle travel speeds more consistent

» Traffic Safety
  ▪ 40-50% reduction in overall crashes with roundabout(s)
  ▪ 70-80% reduction in injury crashes with roundabout(s)

» Right of Way
  ▪ Requires more right-of-way at intersection, but possibly less on roadway segments

» Pedestrians and Bicyclists
  ▪ Roundabouts reduce potential conflict points
  ▪ Bicyclists can ride in circulatory roadway or traverse roundabout around the perimeter as a pedestrian
  ▪ Pedestrians cross via marked crosswalks with raised medians and supplemental traffic control for multilane crossings
Pedestrian Treatment Options at Roundabouts

Rectangular Rapid Flash Beacons

Pedestrian Hybrid Beacons (HAWK)
Corridor Concept B Family Elements

- Maintain/widen to three-lane cross section
- Enhanced street lighting at intersections and crossings
- Access management to reduce driveway conflicts
- Additional bus pullouts and shelters
- Intersection improvements including roundabouts
Concept B1 – Three Lane Section with Expanded Stephen Richards Signal

Notes:
1. Enhance existing illumination with additional luminaires located at intersections and pedestrian crossing locations.
Concept B1 – Three Lane Section with Expanded Stephen Richards Signal
Concept B4 – Three Lane Section with Stephen Richards, Floyd Dryden, and Valley Blvd Roundabouts
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B4 - Three Lane Section with Stephen Richards, Floyd Dryden, and Valley Blvd Roundabouts
Juneau, AK
Concept B4 – Three Lane Section with Stephen Richards, Floyd Dryden, and Valley Blvd Roundabouts

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B4 - Three Lane Section with Stephen Richards, Floyd Dryden, and Valley Blvd Roundabouts
Juneau, AK
Short Way-Floyd Dryden Connection

- Provide secondary access to Floyd Dryden Middle School
- Relieve congestion at Floyd Dryden Access Road
- Needed under concepts without Floyd Dryden roundabout
Concept Evaluation

Vehicle Operations
- Nancy Street operates at LOS E under 3-lane and 5-lane concepts
- Stephen Richards peak hour queues and delay reduced by expanded signal and further reduced by roundabout
- Floyd Dryden congestion reduced by roundabout and/or Short Way connection
- Mendenhall/Valley Boulevard operates with reduced queues and delay with added northbound right-turn lane or roundabout

Pedestrian and Bicycle Operations
- Five-lane concepts increase crossing distance
- Roundabouts decrease crossing delay
Concept Evaluation

▷ Safety

- Roundabouts reduce crash frequency by 40-50%
- Protected-only and flashing yellow arrow left-turn control reduce crashes 40-60%
- Five-lane section predicted to experience more crashes than 3-lane

▷ Access Management

- Consolidating driveways reduces conflicts, particularly with path users
- Roundabouts in sequence enable U-turns in place of difficult left turns out of side streets and driveways

▷ Right-of-Way

- Five-lane concepts may require right-of-way acquisition to accommodate grades
- Roundabouts would require right-of-way acquisition at intersections
- Road widening will reduce buffer and may increase noise along roadway
Next Steps

- Project team develop recommended concept based on concept evaluation, public involvement, and cost estimates