OR 140 Corridor Plan

Technical Advisory & Citizen Committees
Meeting #1 – June 16, 2011

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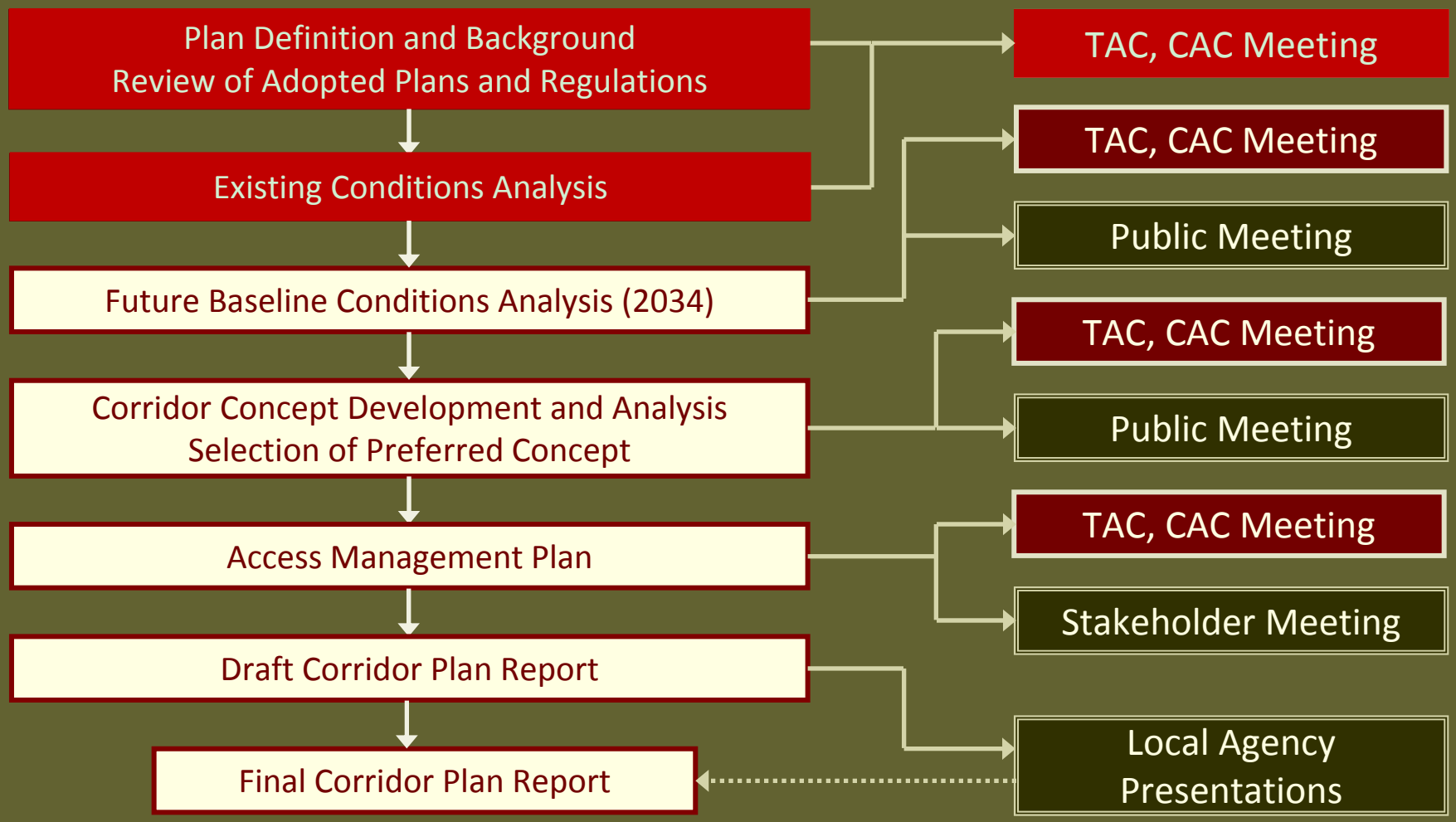
Presentation Topics

1. Project Overview
   - Purpose
   - Process
   - Goals & Objectives
2. Work Completed
   - Environmental and Land Use Reconnaissance
   - Existing Conditions Analysis
3. Next Steps

Project Purpose

- Determine how the existing highway functions
  - Existing conditions – Year 2010
  - Future conditions – Year 2034
- Identify strategies/improvements to enhance safety and capacity within the corridor
  - Demand and System Management
  - Additional Infrastructure
- Build upon other transportation projects
  - Highway 62 Corridor Project
  - I-5 Exit 35 Interchange Area Management Plan

Corridor Planning Process



Draft Corridor Goals

Four Goals with Supporting Objectives:

Goal 1: Mobility

Develop and implement management measures and physical improvements that maximize the efficiency of existing roadway facilities through 2034.

Goal 2: Freight Operations

Develop a plan that facilitates freight mobility in the corridor.

Draft Corridor Goals (continued)

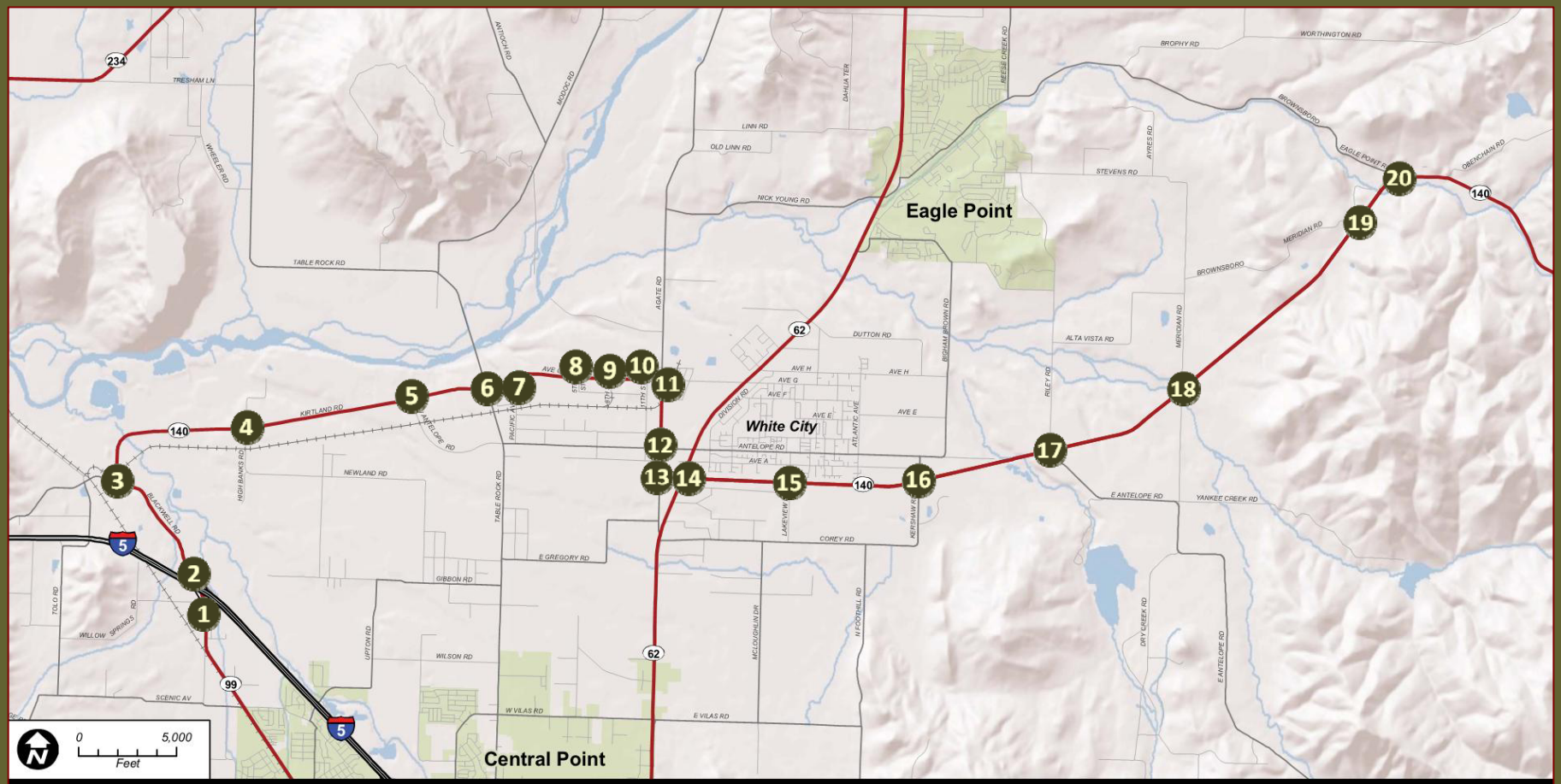
Goal 3: Safety

Promote the safety of current and future travel modes for all users.

Goal 4: Coordination

Coordinate planning efforts for OR 140 with other plans and projects in the study area.

Corridor Planning Area



Legend

Interstate | Highways | Ramps | Major Roads | Minor Roads | Railroad

Source Data: Jackson County, ESRI, Oregon GEO

Figure 1-1
Study Area

Environmental and Land Use Reconnaissance

Reconnaissance was performed to understand existing environmental and land use issues and to help inform the process of developing conceptual alternatives.

- Environmental Reconnaissance
  - Natural resources such as riparian corridors, wetlands, wildlife habitat, and recreation trails
  - Wildlife crossings and threatened and endangered species
  - Floodplains and floodways
  - Air and noise quality
  - Hazardous materials
  - Visual resources

Environmental and Land Use (continued)

- Land Use Summary
  - Zoning and Comprehensive Plan designations
  - Community features
    - Parks and recreation areas
    - Historical and Archaeological Resources
    - Section 4(f) and 6(f) resources
  - Right-of-way
  - Canals and Culverts
- Socioeconomic and Environmental Justice

Potential Design Constraints

Tech Memo #2 includes an Environmental and Land Use "Red Flag" Summary of Potential Design Constraints

- Wetlands (Goal 5 Resource)
  - High-value vernal pools adjacent to right-of-way
  - Threatened species (vernal pool fairy shrimp and dwarf wooly meadow-foam)
- Historical and Archaeological Resources
  - Unlisted but potentially eligible historic resources
  - Potential archaeological (identified and unidentified) resources

Existing Transportation Analysis

- Transportation System Inventory
  - Roadways
  - Pedestrian and Bicycle Facilities
  - Transit
  - Freight
  - Intelligent Transportation Systems (ITS)
  - Rail
- Traffic Conditions
  - Design Hourly Volumes - 2010
  - Traffic Operations – 20 intersections
  - Crash History – 2005 through 2009

OR 140 Corridor Inventory

OR 140 Segment	Functional Classification		Posted Speed (mph)	No. of Lanes
	Federal[1]	Jackson County		
Blackwell Rd: I-5 to Kirtland Rd	Rural Principal Arterial - Other	Major Collector	45	2
Kirtland Rd: Blackwell Rd to Pacific Ave	Rural Principal Arterial	Major/Industrial Collector	45-55	2
Pacific Ave: Kirtland Rd to Ave G	Rural Principal Arterial	Industrial Collector	55	2
Ave G: Pacific Ave to Agate Rd	Rural Principal Arterial	Industrial Collector	35-55	2
Agate Rd: Ave G to Leigh Way	Rural Principal Arterial – Other	Industrial Collector	45	2
Leigh Way: Agate Rd to OR 62	Urban Principal Arterial	Major Arterial	Not Posted	2
OR 62 to Brownsboro-Eagle Point Rd	Urban/Rural Principal Arterial	Major Arterial	55	2-3

Inventory also addresses travel lane width, pavement width, and right-of-way

Local Road Inventory

Intersecting Roads		Functional Classification	Traffic Control at OR 140	Posted Speed (mph)	No. of Lanes
West of White City	High Banks Rd	Local	STOP Sign	55	2
White City	W Antelope Rd	Minor Arterial	STOP Sign	55	2
	Table Rock Rd	Minor Arterial	Traffic Signal	55	2
	5th St	Local	STOP Sign	55	2
	8th St	Local	STOP Sign	45	2
	11th St	Rural Major/ Urban Collector	STOP Sign	45	2
	Antelope Rd	Minor Arterial	Traffic Signal	45	2
	OR 62	Statewide	Traffic Signal	45	4
	Lakeview Dr	Local	STOP Sign	55	2
East of White City	Kershaw Rd	Rural Major/ Urban Collector	STOP Sign/Beacon	55	2
	Weigh Station EB	--	--	--	--
	Riley Rd/Antelope Rd	Minor Collector	STOP Sign	55	2
	Meridian Rd	Local	STOP Sign	55	2
	Brownsboro- Meridian Rd	Local	STOP Sign	55	2
	Brownsboro-Eagle Point Rd	Rural Major/ Urban Collector	STOP Sign	55	2

Pavement Conditions

MP -2.51
Avenue G

Section Name	Begin Milepoint	End Milepoint	Length (miles)	2010 Rating
Blackwell Rd: Junction with I-5 - Kirtland Rd	-8.29	-7.02	1.27	Very Good
Kirtland Rd: Blackwell Rd - Pacific Ave	-7.02	-2.71	4.31	Fair
Ave G: Pacific Ave - Agate St	-2.55	-1.16	1.39	Fair
Agate St: Ave G - Leigh Way	-1.16	-0.20	0.96	Poor
Leigh Way: Agate St – Junction OR 62	-0.20	0.00	0.20	Poor
Junction OR 62 – Brownsboro-Eagle Point Rd	0.00	7.98	7.98	Good

MP -1.055
Agate St

MP -0.3
Leigh Way

Pedestrian and Bicycle Facilities

- Sidewalks
  - Leigh Way & OR 62
- Crosswalks
  - Blackwell Road/I-5 SB ramps
  - Agate Road/Antelope Road
  - OR 140/OR 62
- Bike Facilities
  - No bike lanes
  - East of OR 62, shoulders are generally 8 to 10 feet
  - Other roadways such as Kirtland, Avenue G, and Agate, have some shoulders that are greater than 4 feet but most are not contiguous.

Other Facilities

- Bridges
  - 5 bridges with no deficiencies identified
- Transit Facilities
  - One route (#60) on OR 62 operated by RVTD
  - 30-minute headways, 5:00 AM to 6:30 PM, Monday through Friday

- Rail
  - Central Oregon and Pacific Railroad (CORP)
  - White City Terminal and Utility (WCTU) Railway
  - Two Crossings
    - Kirtland Road: north of Blackwell Road
    - Agate Road: south of Avenue G

Existing Traffic Volumes

- 20 Intersections along OR 140
- Turning movement data collected for 4-hour, 16-hour, or 24-hour periods
  - 3 counts from 2004
  - 1 count from 2007
  - 16 counts from 2010
- Common peak hour between 3:30 and 4:30 PM
- Converted to design hourly volumes (DHV) = 30th highest hour

Recent Traffic Volume Trends

Mile-point	Count Location	Average Annual Daily Traffic (AADT) Volume						Change Total
		2004[1]	2005	2006	2007[1]	2008	2009[2]	
-8.07	0.10 miles NW of Frontage Rd	-	-	-	-	-	8,400	NA
-6.97	0.05 miles N of Blackwell Rd	-	-	-	-	-	7,300	NA
-2.76	0.05 miles W of Pacific Avenue	-	-	-	-	-	4,100	NA
-1.21	0.05 miles W of Agate Rd	-	-	-	-	-	4,500	NA
-0.05	0.05 miles W of OR62	-	-	-	-	-	3,400	NA
0.12	0.12 miles E of OR62	5,400	5,300	5,200	5,800	5,200	5,400	0.0%
2.31	0.02 miles E of Kershaw Rd	4,300	4,200	4,100	5,400	4,900	5,000	16.3%
3.69	0.10 miles E of Riley Rd	4,800	4,700	4,600	3,900	3,500	3,600	-25.0%
7.96	0.02 miles SW of Brownsboro-Eagle Point Rd	3,500	3,400	3,400	3,300	2,900	3,100	-11.4%

1. Actual counts on OR 140 east of OR 62 were collected in 2004 and 2007.
2. Actual counts on OR 140 west of OR 62 were collected in 2009.

Note: Year 2010 AADT data is not available yet.

Recent Traffic Volume Trends (continued)

- No good history of former county roads
- Mix of increases and decreases east of OR 62

How does this affect future volumes?

Freight Traffic Volumes

Location	3:30 PM – 4:30 PM			Other Periods			
	Trucks[1]	Total Volume	Truck %	Trucks[1]	Total Volume	Truck %	Count Period[2]
West of High Banks Rd	49	420	12%	136	1,328	10%	4-hour
West of Table Rock Rd	37	282	13%	482	3,436	14%	16-hour
East of Table Rock Rd	26	261	10%	295	3,076	10%	16-hour
West of OR 62	16	410	4%	248	3,755	7%	24-hour
East of OR 62	34	621	5%	483	6,938	7%	24-hour
West of Brownsboro-Eagle Point Rd	19	264	7%	335	3,723	9%	16-hour

1. Trucks include single unit and tractor trailers.
2. All counts from 2010

Intersection Operations Evaluation

- Performance Measures
  - Volume/Capacity Ratio
    - *Volume = Traffic Demand*
    - *Capacity = Maximum Throughput*
  - Level of Service A through F based on delay
  - 95th Percentile Queues
- Performance Standards
  - ODOT Standards
    - V/C ratio of 0.85 statewide highway in MPO (west of OR 62)
    - V/C ratio of 0.80 statewide freight route in MPO (east of OR 62)
    - V/C ratio of 0.70 statewide freight route rural (east of Meridian)
  - Other Jurisdictions
    - V/C ratio consistent with ODOT

2010 Existing Intersection Operations

Intersection		Critical[1] Movement	2010 PM Peak Hour V/C Ratio[2]	LOS[2]	Delay[2] (sec.)	Operational Standards[3]
West of White City	1. OR 99 @ I-5 SB Ramps	Overall	0.85	B	42	0.85
	2. Blackwell @ I-5 NB Ramps	WB L	0.82	F	31	0.85
	3. Kirtland @ Blackwell	EB L/R	**>1.0**	F	>50	0.85
	4. Kirtland @ High Banks	NB L/T/R	0.06	B	4	0.85
White City	5. Kirtland @ W Antelope	NB L/T/R	0.19	B	5	0.85
	6. Kirtland @ Table Rock	Overall	0.37	B	12	0.85
	7. Kirtland @ Pacific Avenue	EB L/T/R	0.33	B	10	0.85
	8. Avenue G @ 5th	NB L/R	0.05	B	4	0.85
	9. Avenue G @ 8th	NB L/R	0.04	B	3	0.85
	10. Avenue G @ 11th	NB L/T/R	0.06	B	5	0.85
	11. Avenue G @ Agate	NB L/T/R	0.26	B	12	0.85
	12. Agate @ Antelope	Overall	0.54	B	11	0.85
	13. Agate @ Leigh	WB L	0.30	B	11	0.85
	14. Leigh/OR 140 @ OR 62	Overall	**0.93**	D	47	0.80
	15. OR 140 @ Lakeview	SB L/T/R	0.11	B	5	0.80
East of White City	16. OR 140 @ Kershaw	NB L/T/R	0.29	C	8	0.80
	17. OR 140 @ Riley	NB L/T/R	0.12	B	5	0.80
	18. OR 140 @ Meridian	SB L/T/R	0.02	A	6	0.80
	19. OR 140 @ Brownsboro Meridian	WB L/T/R	0.01	B	7	0.70
	20. OR 140 @ Brownsboro-Eagle Point	EB L/T	0.09	A	1	0.70

2010 Existing Intersection Queuing

Existing (2010) 95th Percentile Queues Exceeding Available Storage

Intersection	Approach & Movement	95th Percentile Queue (ft.)	Available Storage (ft.)	Percent Time Blocked[1]
5. Leigh Way/OR 140 @ OR 62 (Signalized)	EB L/T	175	150[3]	4
	NB L	275	275[3]	18
	NB T	975	400[2]	34
	NB R	250	175[3]	1
	SB T/R	825	425[2]	22

1. Percent time block reflects the percentage of time when the queue either extends out of a storage bay and interferes with the adjacent through travel lane or extends past the next upstream intersection.
2. Storage distance reflects spacing to the next public access point.
3. Storage distance reflects length of travel lane or turn bay.

Crash History

- January 1, 2005 through December 31, 2009 Data
- 145 Crashes reported in Corridor
- Crash Rates on OR 140

Segment	Reported Crashes		Crash Rate	
	All Types	Fatal/ Severe Injury	All Types (crashes/mvm)	Fatal/ Severe Injury (crashes/100mvm)
West of OR 62	42	8	0.51	**9.61**
East of OR 62	49	3	**0.82**	5.02
Statewide Non-Freeway	-	-	1.22	5.12
Rural Non-Freeway	-	-	0.78	5.44

Segment crash rates exclude north/south crashes on OR 62

Crash Severity by Year (2005 - 2009)

Year	Crash Severity			Total # of Crashes	% by Year	Number of Fatalities/Injuries			
	Fatal/ Injury A	Injury B/C	PDO			Fatalities	Injury A	Injury B	Injury C
2005	3	24	21	**48**	33%	0	4	20	19
2006	3	17	13	**33**	23%	0	4	6	13
2007	3	15	4	**22**	15%	1	3	19	7
2008	1	9	11	**21**	14.5%	0	2	2	10
2009	2	12	7	**21**	14.5%	0	3	4	19
Total	**12**	**77**	**56**	**145**	**100%**	**1**	**16**	**51**	**68**
% by Severity	8%	53%	39%						

Fatal crash occurred on Blackwell Road 0.1 miles south of Kirtland Road – one vehicle, speed was a factor

Crash History (continued)

- Collision Types
  - Four Types account for 91% of all crashes
    - Turning, Fixed Object, Rear End, Angle
  - No Pedestrian or Bicycle collisions
- Segments (between intersections)
  - 51 crashes
  - Highest crash segments
    - Blackwell from Frontage to Kirtland (12 crashes – 1 fatal, 1 severe)
    - Kirtland from High Banks to Table Rock (10 crashes)
    - Kirtland from Blackwell to High Banks (9 crashes – 1 severe)

Crash History (continued)

- Intersections
  - 94 crashes
  - Highest crash intersections
    - OR 62 @ OR 140 (33 crashes – 1 severe)
      - *5 in east/west direction*
      - *28 in north/south direction including the severe injury*
    - Kershaw @ OR 140 (15 crashes – 2 severe)
    - Table Rock @ Kirtland (13 crashes – 2 severe)
      - *11 of 13 occurred in 2005 & 2006 – signal installed spring of 2006*
    - Kirtland @ Blackwell (7 crashes – 2 severe)
      - *Intersection reconfigured in 2010, turn lanes added*
    - Riley @ OR 140 (6 crashes – 1 severe)

Crash History (continued)

- Safety Priority Index System
  - No top 10% locations

- Safety Investment Program
  - West of OR 62
    - No ratings available
    - 4 fatal/severe crashes Blackwell & Kirtland in 3 years
    - Equivalent to a Category 3* ranking
  - East of OR 62
    - Category 1 and 2 rankings

*Funding is generally targeted at locations with Category 3 through 5 rankings

Next Steps

- Future Conditions Analysis
  - 2034 Baseline Condition – Forecasting
- Upcoming Meeting Dates -
  - TAC and Citizen Meetings
  - Public Open House
  - End of July