FEHR & PEERS
TRANSPORTATION CONSULTANTS

SUMMIT COUNTY

7TH NATIONAL ACCESS MANAGEMENT CONFERENCE

Western Snyderville Basin Transportation / Transit Plan

Kevin Callahan, AICP – Summit County
Ryan Hales, PE, PTOE, AICP – Fehr & Peers

August 14, 2006

Study Background

1. The Western Snyderville Basin has undergone tremendous growth and change, which is expected to continue for some time.
2. Change is naturally difficult, especially when it is dramatic and during a short period.
3. The growth planned for the area provides an opportunity for the Basin to re-invent itself, which many communities wish they had a chance to do.

Project Partners

1. Fehr & Peers was the Prime consultant
2. HW Lochner was a sub-consultant for civil engineering and cost estimates
3. UDOT has been a participant on all key project meetings
4. Park City has contributed funds and valuable insight
5. County staff from Public Works, Community Development, and Engineering have guided the study

FEHR & PEERS
TRANSPORTATION CONSULTANTS

SUMMIT COUNTY

7TH NATIONAL ACCESS MANAGEMENT CONFERENCE

Eastbound I-80 to Southbound SR-224

How to Measure Traffic Conditions

Free-flow conditions (LOS A-D)

How to Measure Traffic Conditions

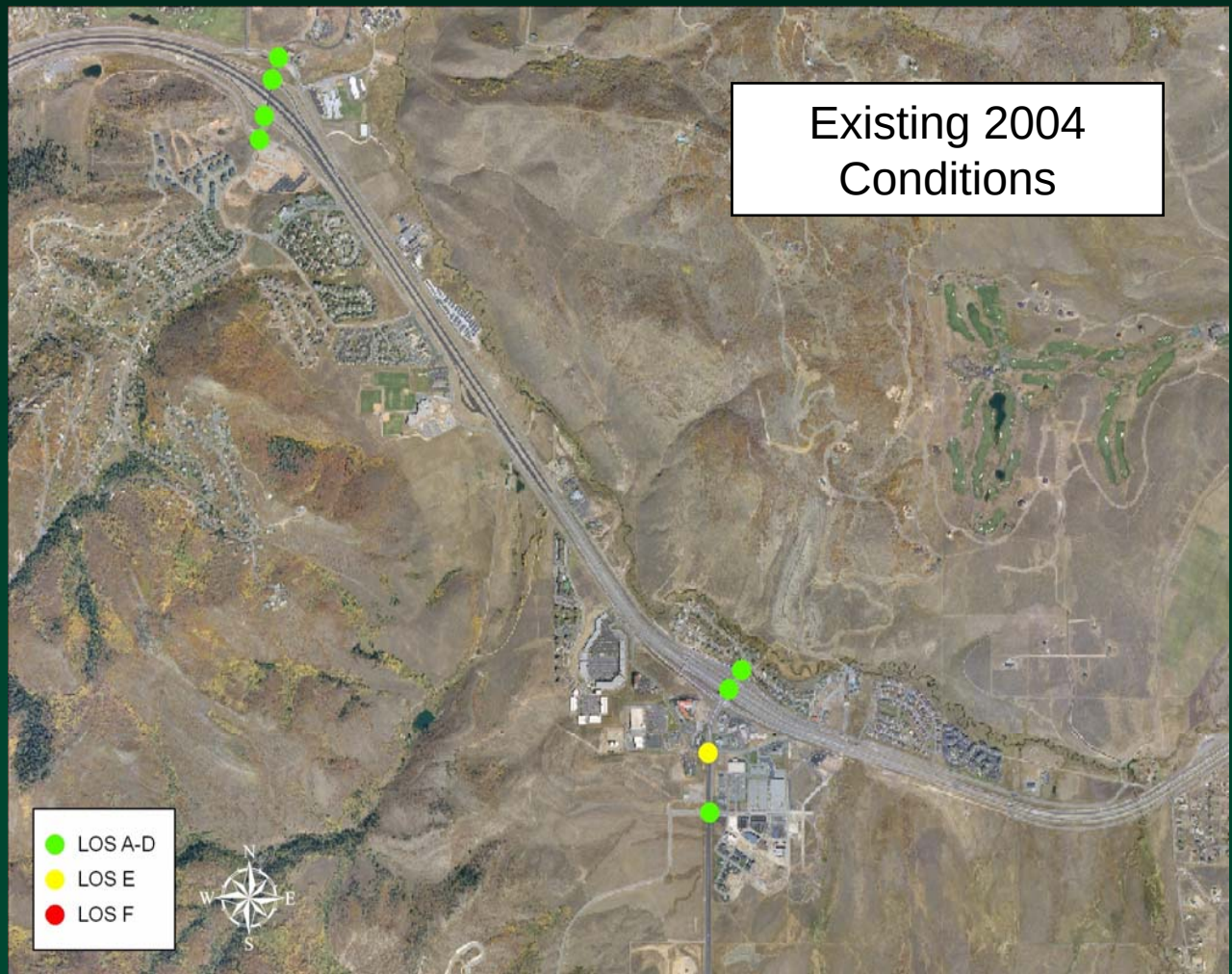
Crowded but Manageable (LOS E)

FEHR & PEERS
TRANSPORTATION CONSULTANTS

SUMMIT COUNTY

7TH NATIONAL ACCESS MANAGEMENT CONFERENCE

Summary of Existing Conditions



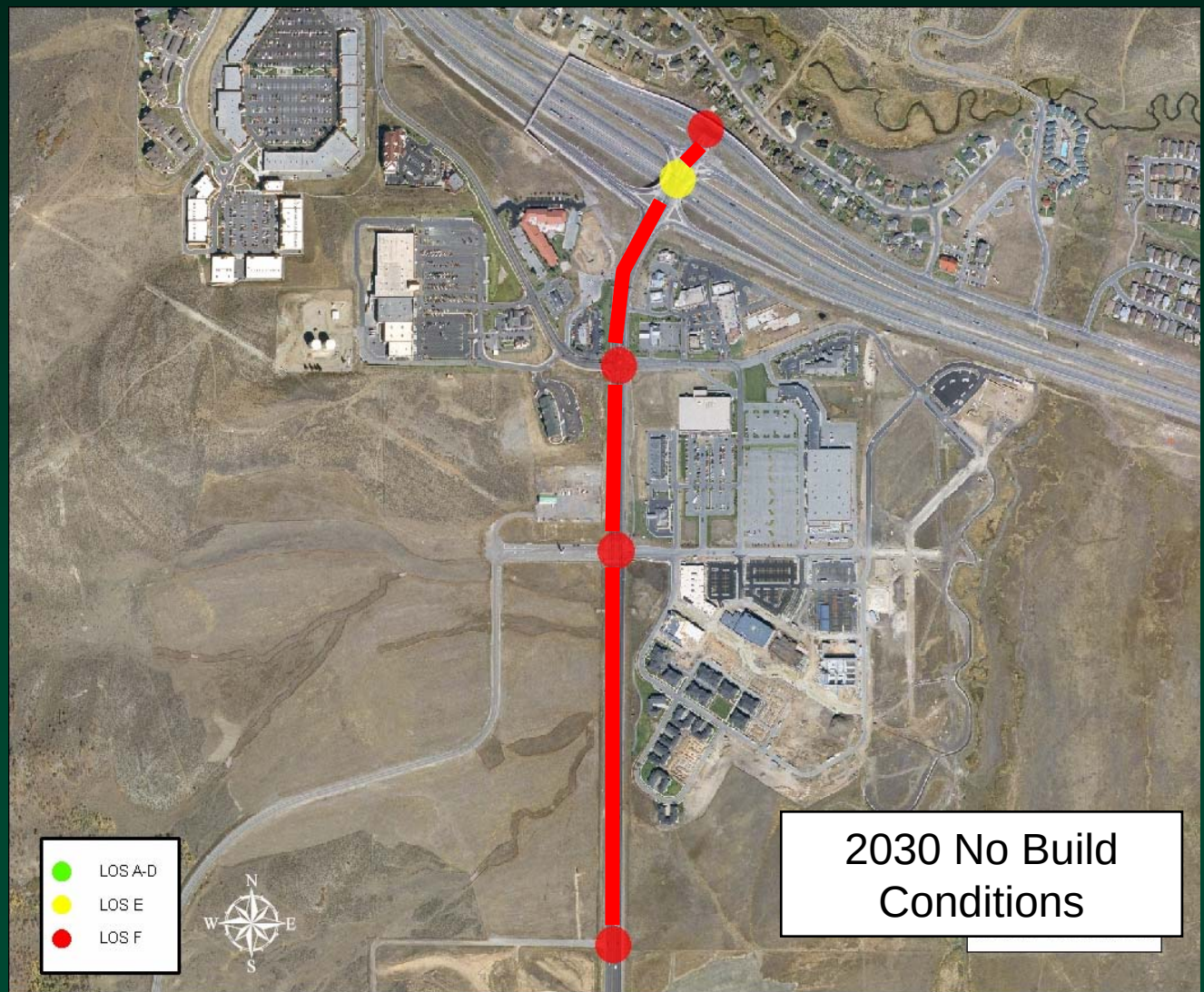
Planned Development in the Basin

FEHR & PEERS
TRANSPORTATION CONSULTANTS

SUMMIT COUNTY

7TH NATIONAL ACCESS MANAGEMENT CONFERENCE

Kimball Area Future Traffic on Existing Transportation System




AP

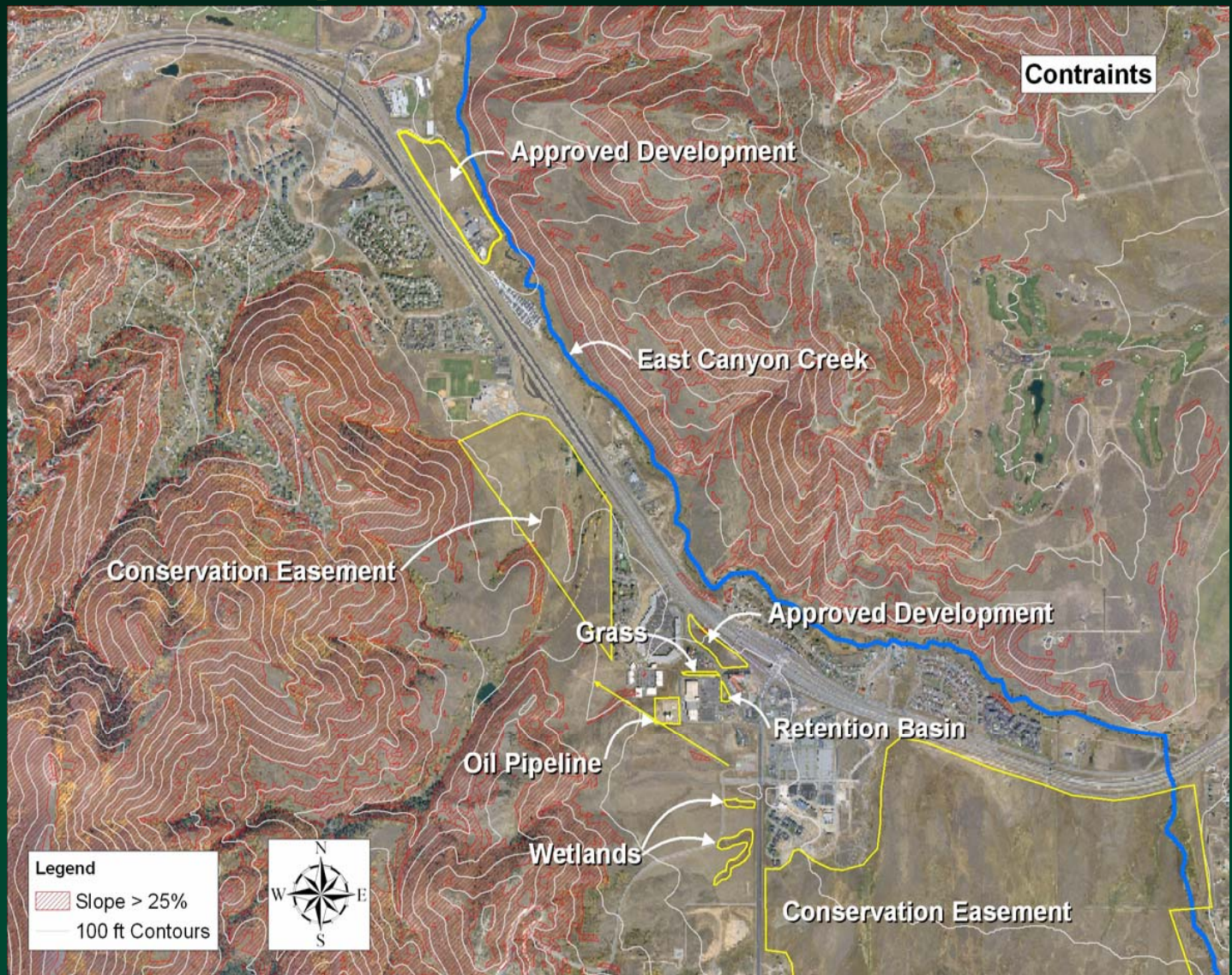
FEHR & PEERS
TRANSPORTATION CONSULTANTS

SUMMIT COUNTY

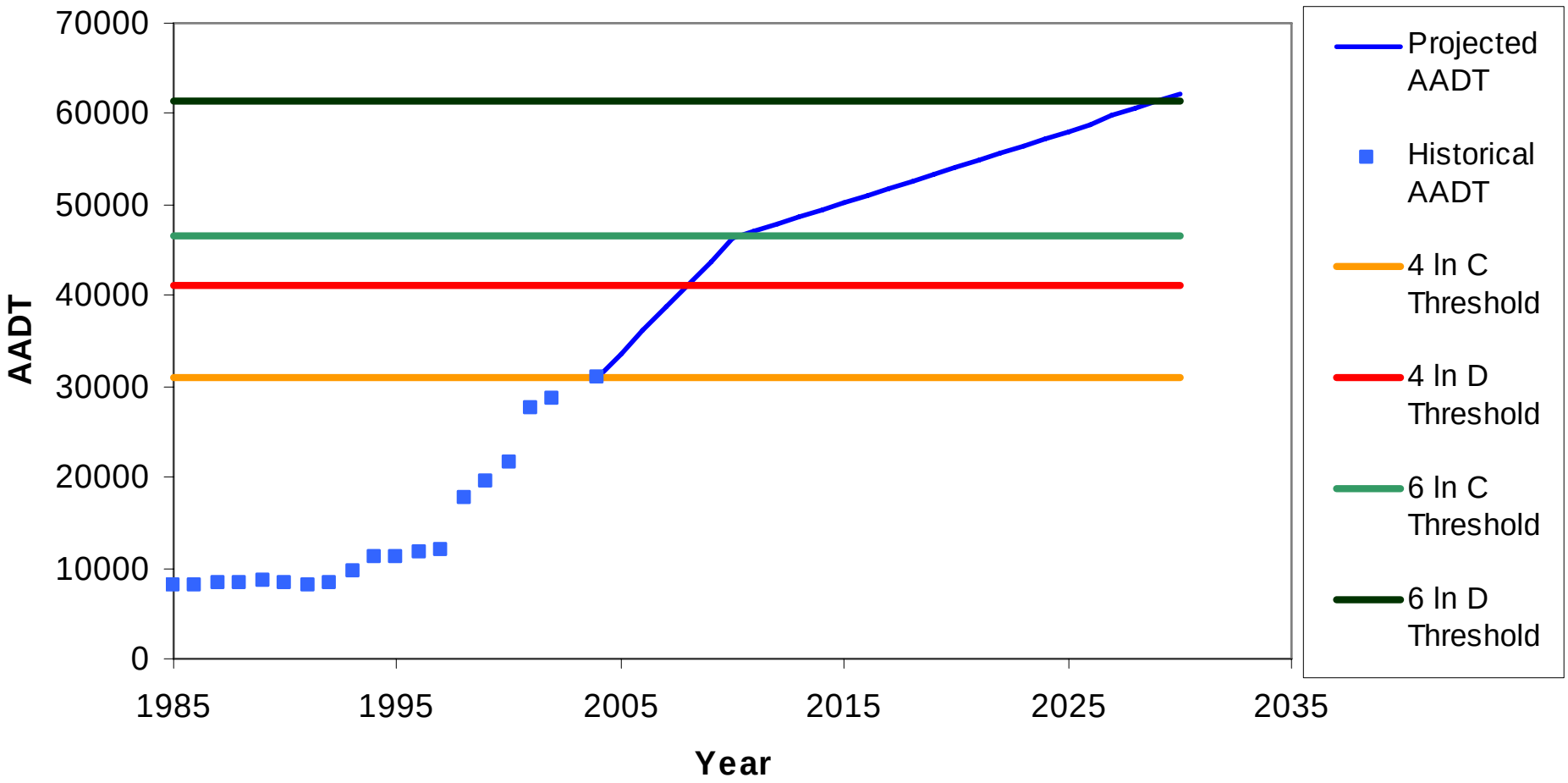
7TH NATIONAL ACCESS MANAGEMENT CONFERENCE


UNITED AIRLINES

Transportation Constraints



Traffic Growth for SR-224



Level of Service Explanation

LOS	Average Travel Speed (mph)
A	43-50+
B	35-42
C	28-34
D	22-27
E	16-21

Estimated Travel Time
(I-80 to White Pine Canyon Road - 3.3 mi)

LOS	Travel Time
A	4.0 min
B	4.0-4.5 min
C	4.5-6.0 min
D	7.5-9.5 min
E	9.5-12.5 min


Change from LOS D/E to LOS C as required by policy.
Non-urbanized intersection

ITS / TSM Description

Intelligent Transportation Systems (ITS) and Transportation System Management (TSM) can be described as measures that improve the efficiency of a transportation network without new roadway construction. These measures do not change the number of trips made.

ITS / TSM Measures

1. Adaptive Signal Control / Signal Coordination
2. Variable Message Signs
3. Provision of Park and Ride lots
4. Addition of turn pockets
5. Acceleration / Deceleration lanes
6. Raised Median or Two-Way Left-Turn lane
7. Enhancement of Bicycle and Ped facilities

TDM Description

Transportation Demand Management (TDM) includes measures that seek to adjust travel patterns resulting in either reduced travel levels during the peak hour or throughout the entire day. These measures are typically implemented by large employers.

TDM Measures

1. Flexible Work Schedules
2. Ride Share Programs
3. Telecommuting
4. Discounted Rideshare Programs
5. Guaranteed Ride Home

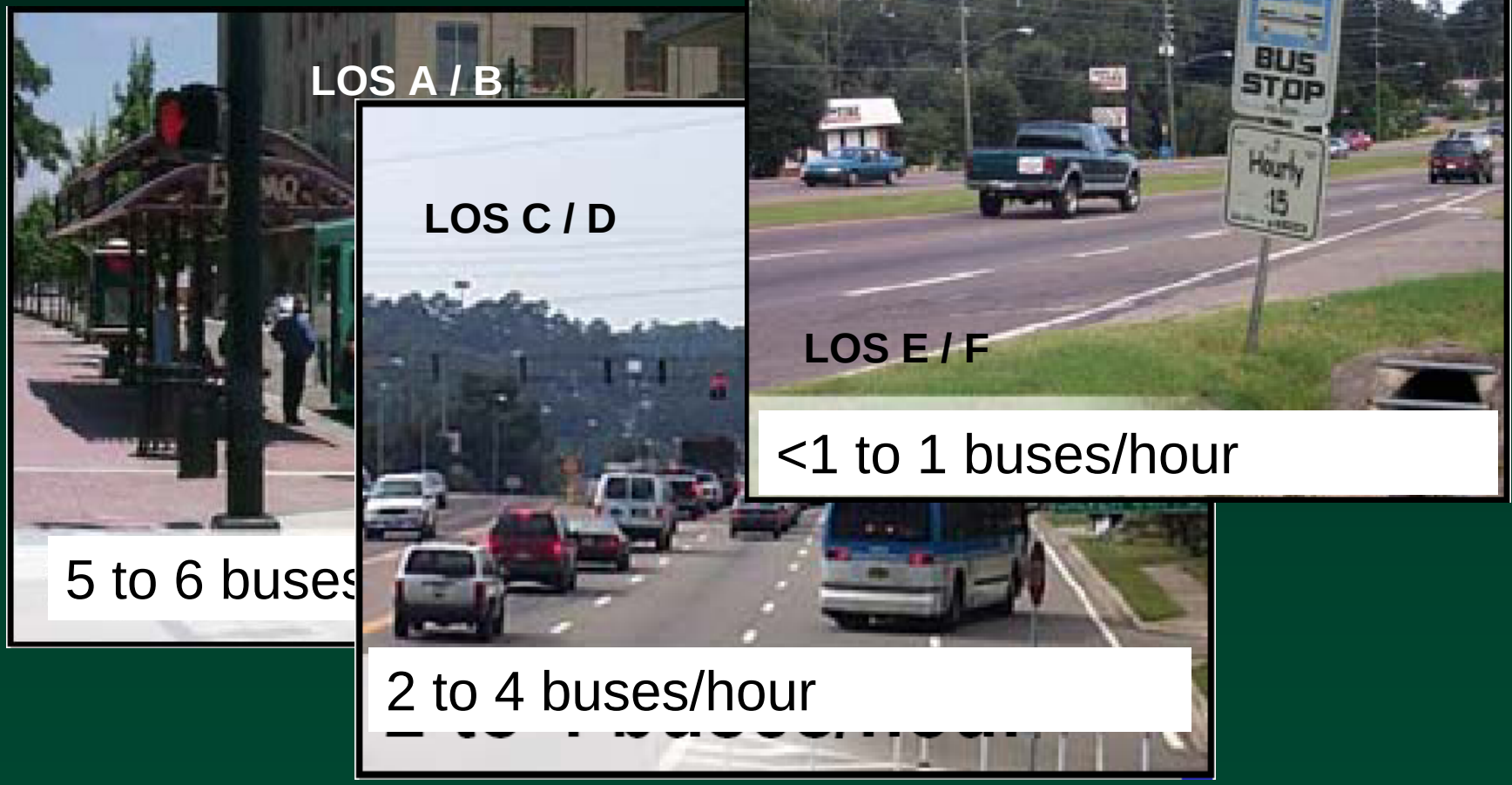
Automobile Space

Person (automobile) Space

Pedestrian / Bicycle Space

Person / Bus Space

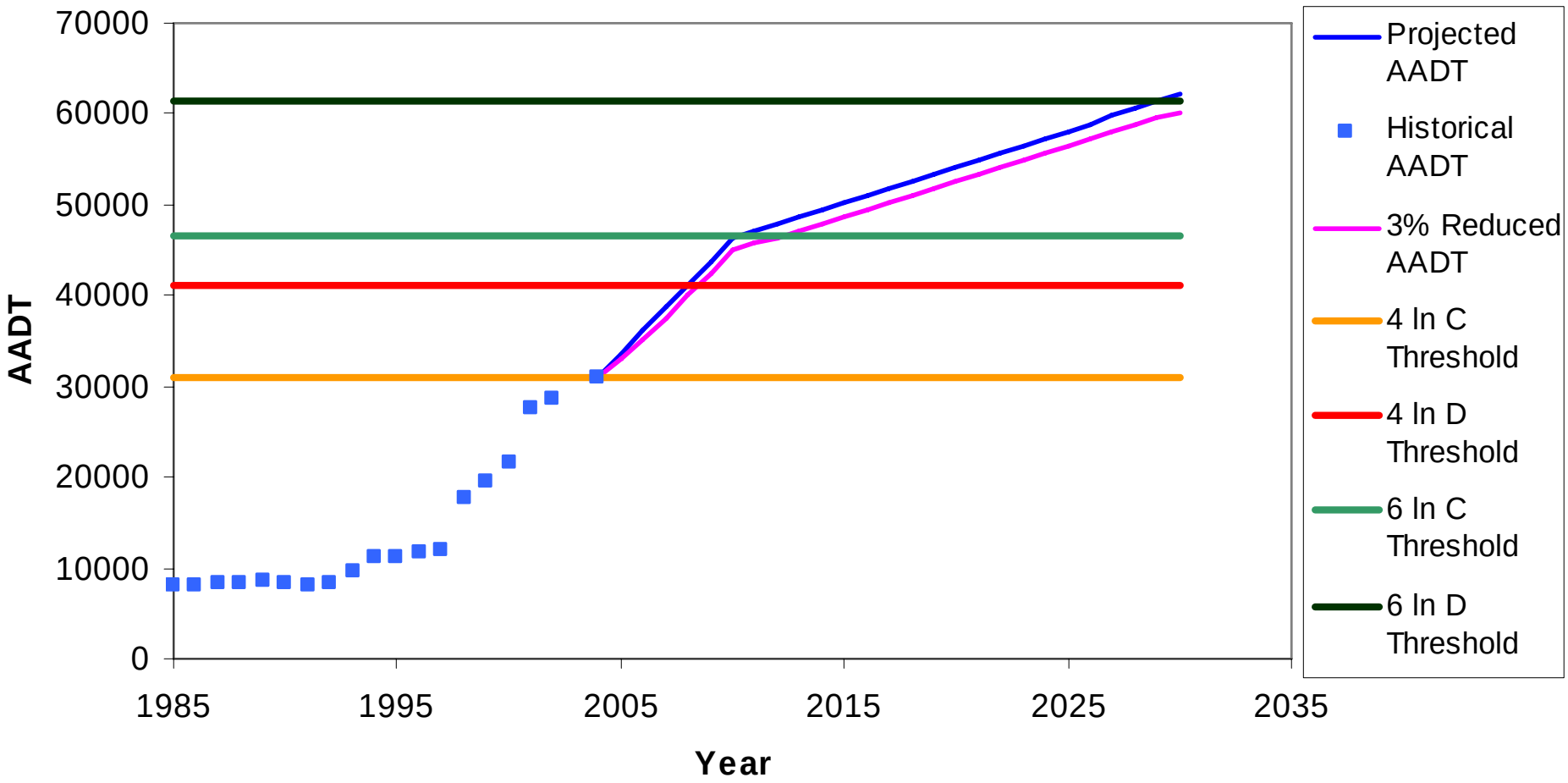
Bus LOS


LOS A / B
5 to 6 buses
LOS C / D
2 to 4 buses/hour
LOS E / F
BUS STOP
Hourly
15
<1 to 1 buses/hour

Bicycle LOS

Pedestrian LOS

Traffic Growth for SR-224



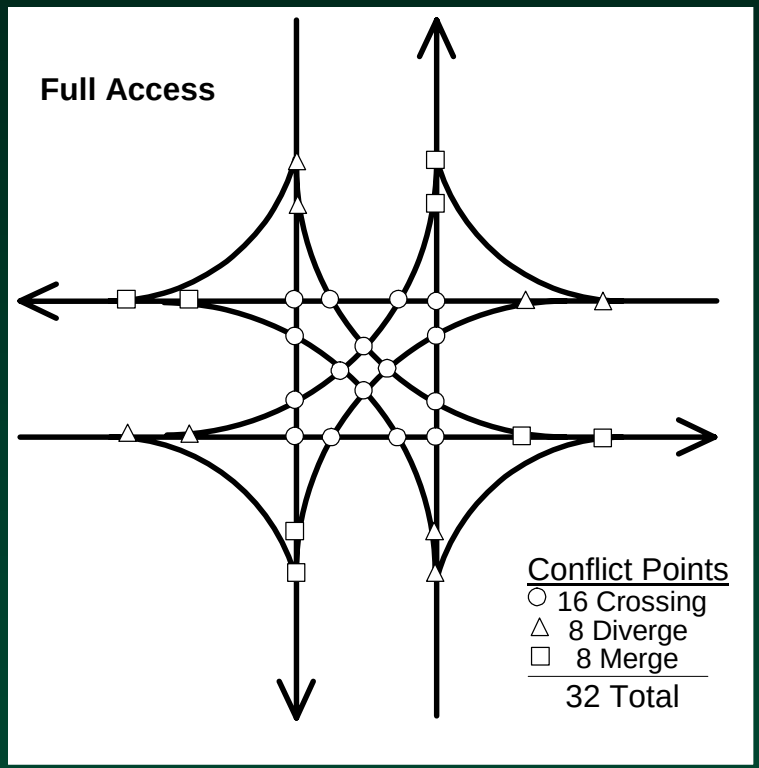
Access Management

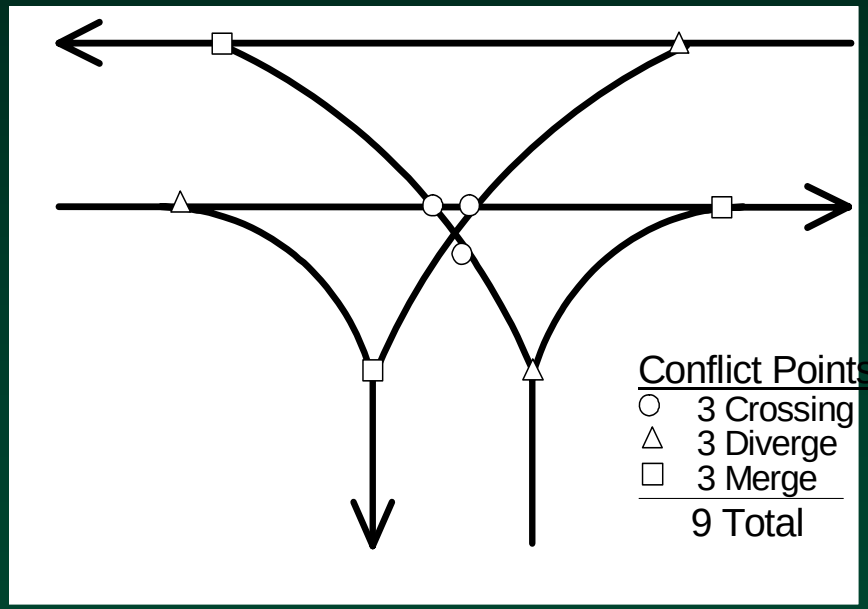
Becomes more important as traffic volumes increase

- **Reduction in traffic conflicts and accidents**
- **Reduced traffic congestion**
- **Preservation of roadway capacity**
- **Improved economic benefit to businesses**
- **Potential reduction in air pollution**

Traffic Conflicts

'T' Intersection





FEHR & PEERS
TRANSPORTATION CONSULTANTS

SUMMIT COUNTY

7TH NATIONAL ACCESS MANAGEMENT CONFERENCE

SR-224, Summit County, Utah

Accident Rates[1,2] By Access Density[3] and Median Treatment (Urban/Suburban Segments)

Access Density	Median Treatment			Total
	Undivided	TWLTL	NTM	
<=20	3.82	-	2.94	3.24
20.01 to 40	8.27	5.87	5.13	5.90
40.01 to 60	9.35	7.43	6.47	7.37
>60	9.55	9.17	8.20[4]	8.59
Total	8.59	6.88	5.19	

Notes:

1. Source: NCHRP Report 420, Table 28, p.37.
2. Accident rates = Accidents per million vehicle miles traveled
3. Access Density reflects both signalized and unsignalized access points per mile and includes access on both sides of the roadway
4. The value reported in Table 28 for non-traversable medians with an access density greater than 60 is an apparent inconsistency. Later text confirms that the reported value would likely be about 8.20.

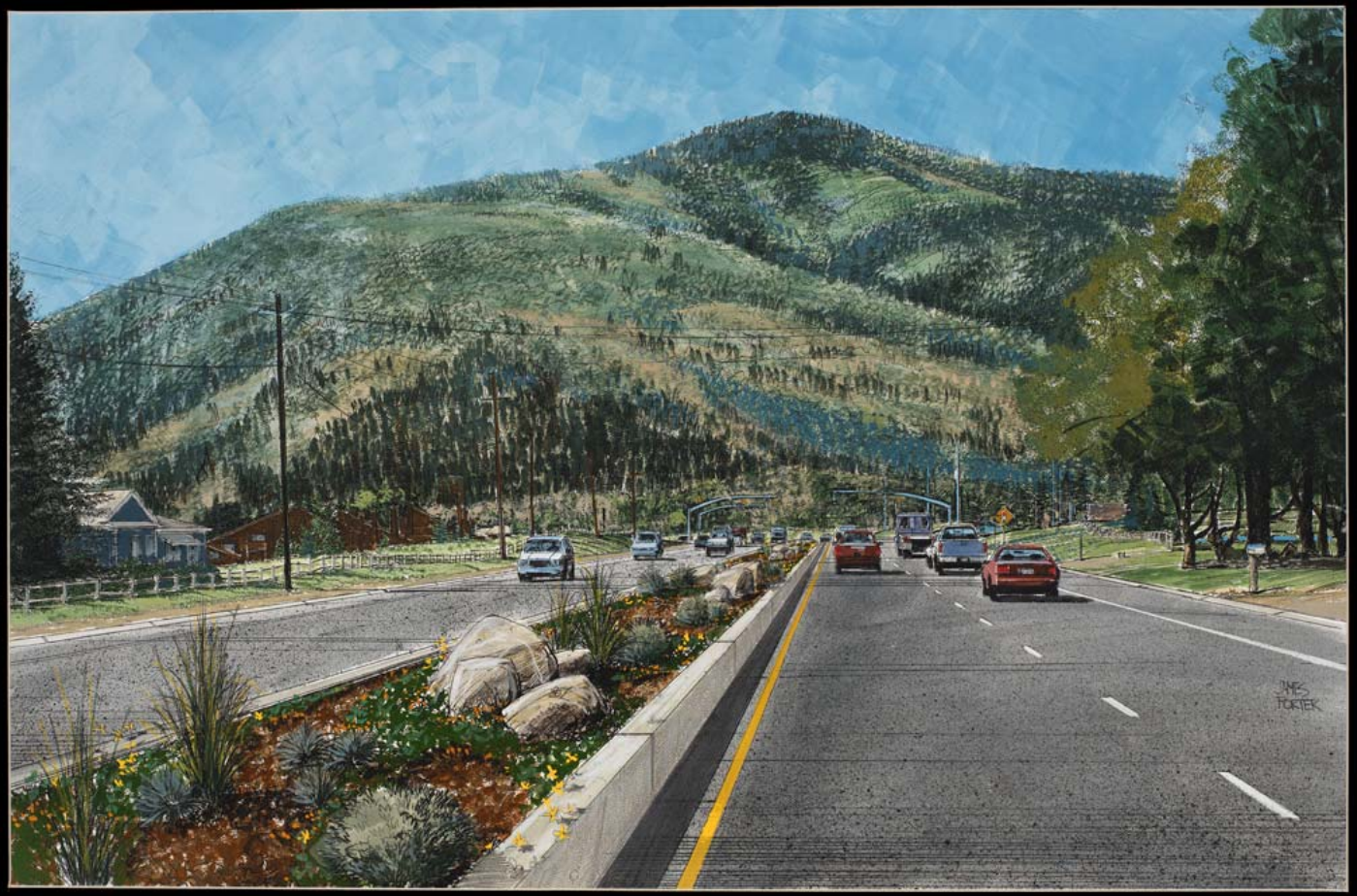
UDOT AM Standards on SR-224

SR-224, Summit County, Utah

UDOT Access Management Standards

Location	Category	Minimum Signal Spacing (feet)	Minimum Street Spacing (feet)	Minimum Access Spacing (feet)
Bitner Rd. to Landmark Dr.	Community Rural	1,320	300	150
Landmark Dr. through White Pine Canyon Road	Regional Rural	2,640	660	500

Courtesy of Horrocks Engineers



Courtesy of Horrocks Engineers

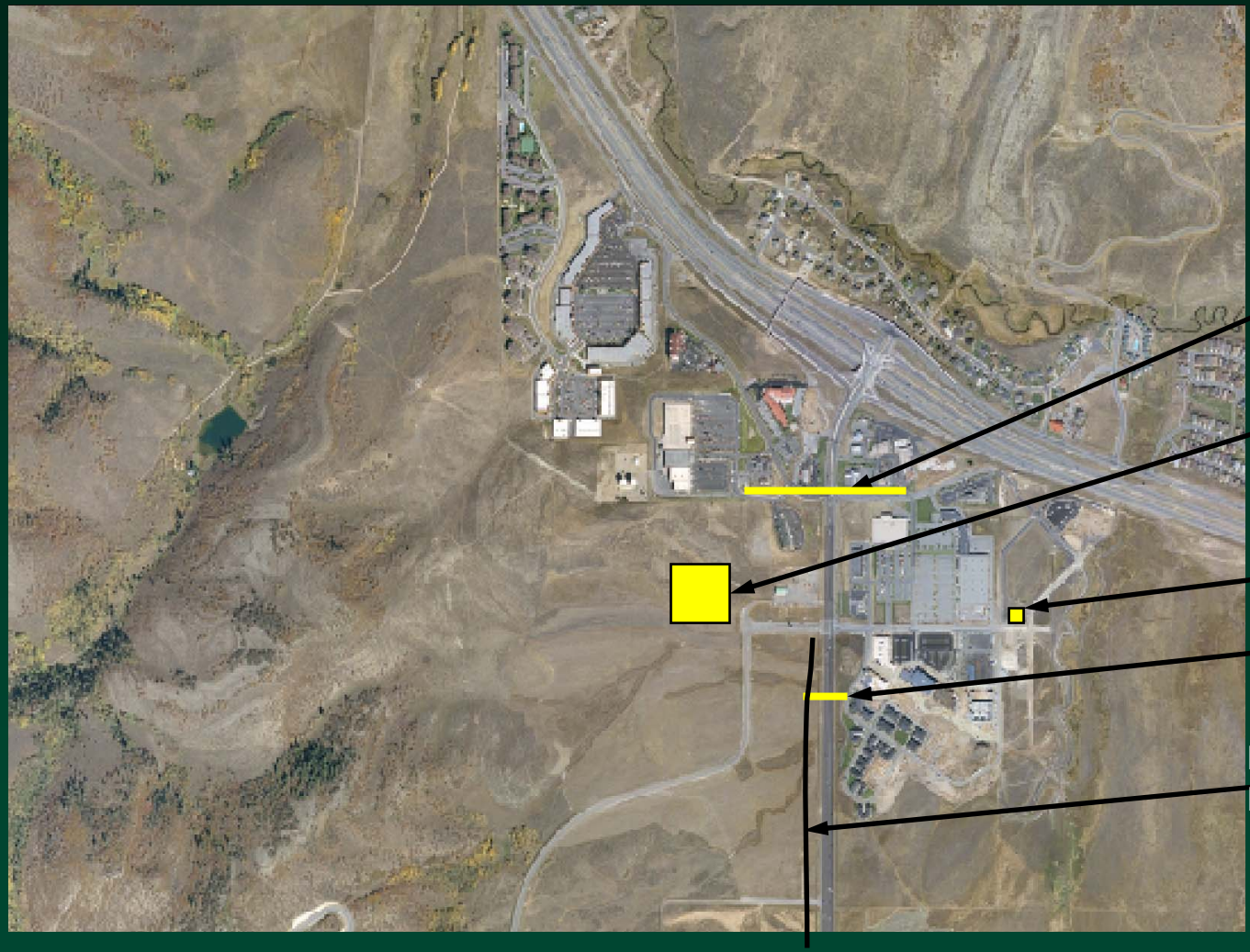
Corridor Preservation Agreement

1. **Landmark Dr.**
2. **Olympic Park Dr.**
3. **North Bear Hollow – *New Signal***
4. **Cutter Lane – *New Signal***
5. **Bear Hollow Dr.**
6. **Old Ranch Rd. – *Realigned/New Signal***
7. **Canyons Resort Dr. – *Realigned***
8. **White Pine Canyon Rd. – *New Signal***

Cutter Lane Realigned Signal

Northbound SR-224 to Westbound Landmark Drive

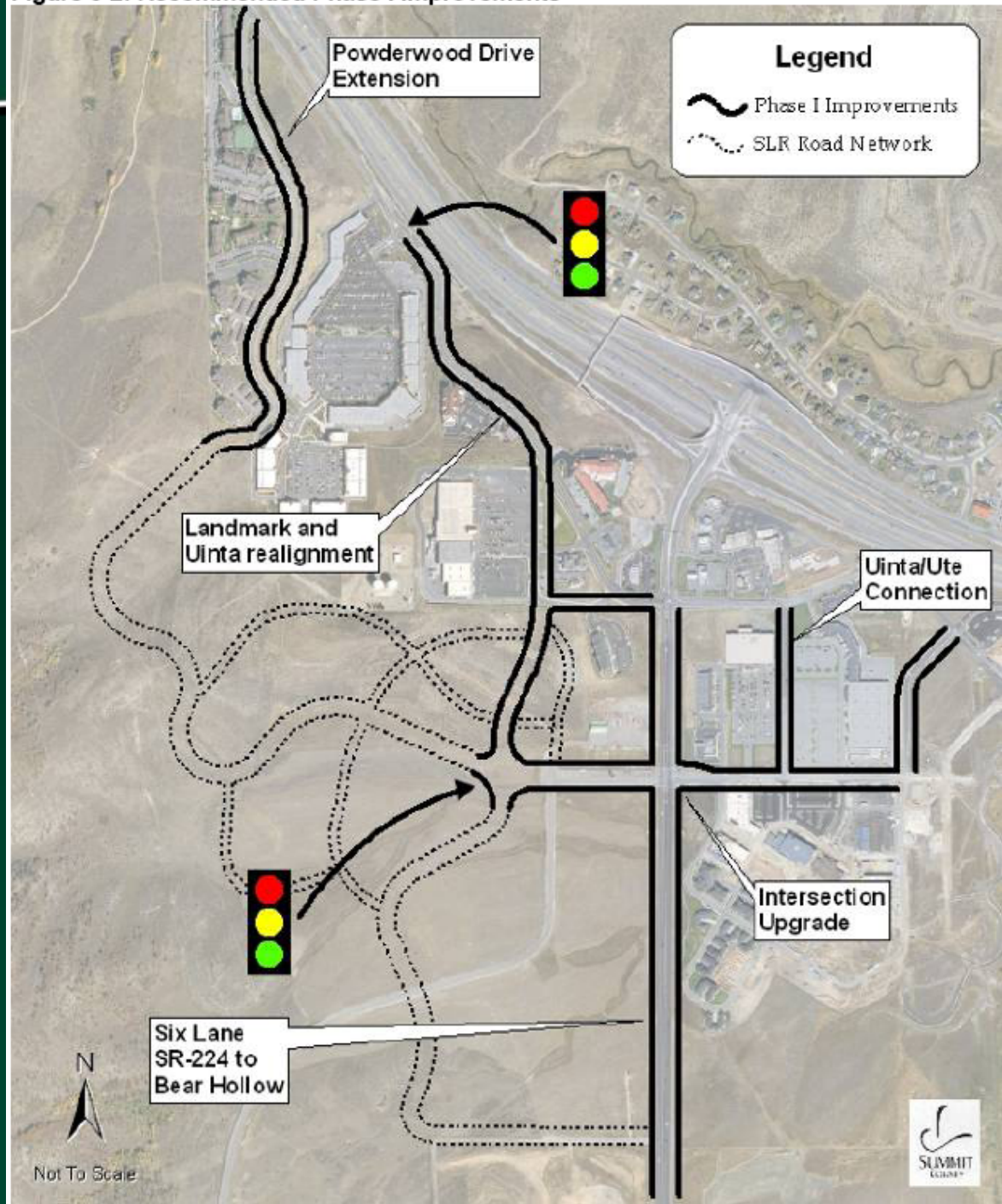
Multi-modal Recommendations



FEHR & PEERS
TRANSPORTATION CONSULTANTS

SUMMIT COUNTY

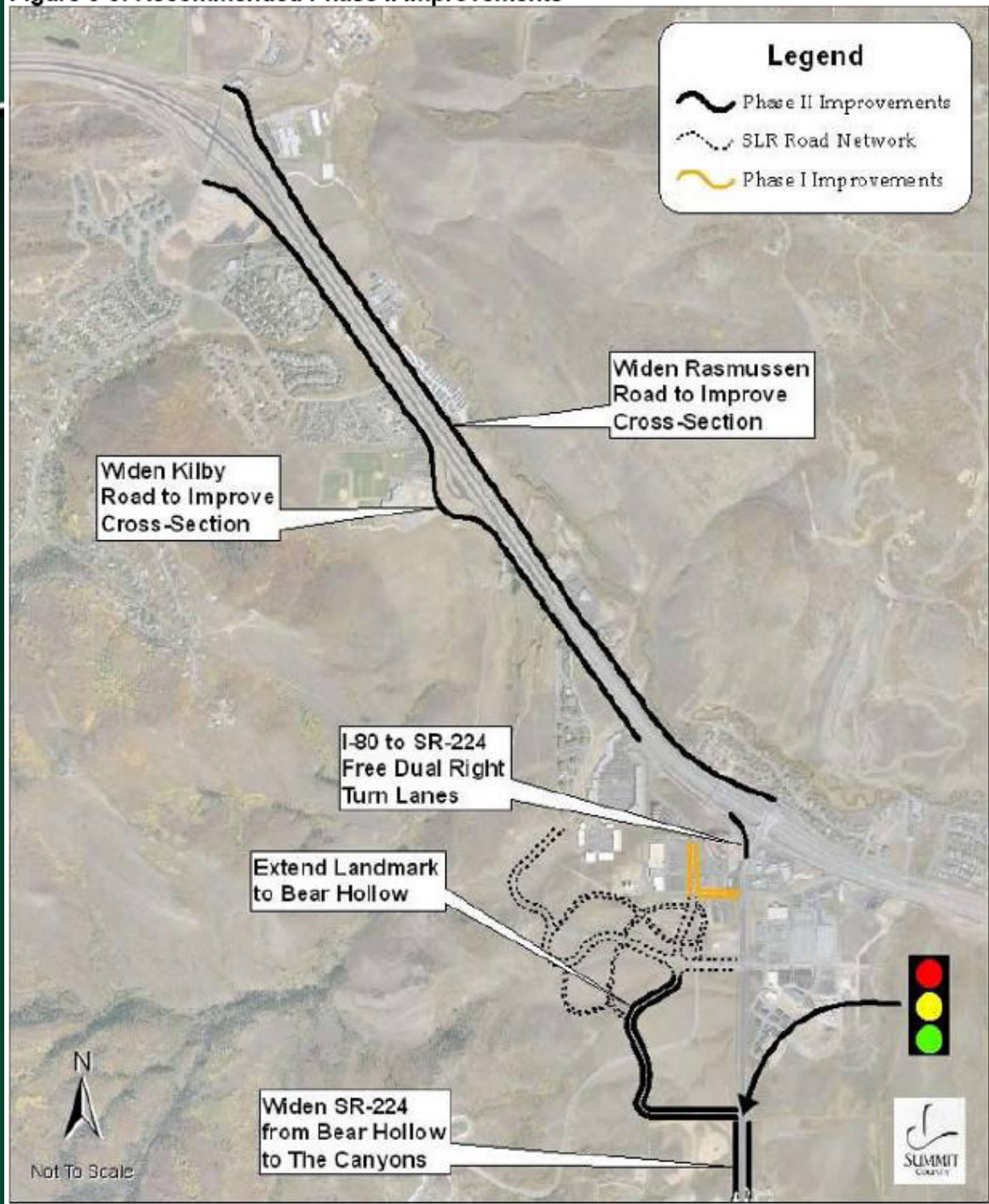
Figure 3-2: Recommended Phase I Improvements



FEHR & PEERS
TRANSPORTATION CONSULTANTS

SUMMIT COUNTY

Figure 3-3: Recommended Phase II Improvements



FEHR & PEERS
TRANSPORTATION CONSULTANTS

SUMMIT COUNTY

Figure 3-4: Recommended Phase III Improvements

FEHR & PEERS
TRANSPORTATION CONSULTANTS

SUMMIT COUNTY

7TH NATIONAL ACCESS MANAGEMENT CONFERENCE

Current Access Management

1. Cooperative Corridor Agreement with UDOT
2. Relocate Canyons Resort Drive to make 4-leg intersection
3. Signalize Cutter Lane
4. SCATS signal coordination program
5. Raised Medians

On going Challenges

1. Wildlife Accidents
2. Accommodating pedestrian movements
   a. Pedestrian traffic in the commercial core
   b. School crossing at Silver Springs Drive
3. Accommodating road cyclists as traffic grows
4. Limited side street access with SCATS in place
5. Landmark Drive / SR-224
6. Access along Landmark Drive
7. How to expand TDM outside study area

Supporting Programs

1. Frequent transit service in corridor
    1. Express Service
    2. Shuttle Service
    3. Summer and Winter Routes
2. Adopted goal to maintain a 5% transit mode share as growth occurs
3. Regional path system on east side of SR-224
4. Summit County plan has a 5% non-motorized mode share during dry weather conditions

Future Programs

1. Landmark Drive Realignment (2008)
2. Free right turn (2007 ?)
3. Third lane extending from the eastbound off-ramp to Landmark Drive (2007 ?)
4. Transit Infrastructure
   a. Short Range Transit Plan with Hub Sites (2007)
5. 900 Space Park and Ride Lot (2007)
6. City and County to jointly fund transit maintenance facility (2007)

Questions?