Park City, Utah's Access Management for the Olympic Transit Center/Roundabout in Old Town

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RoundaboutsUSA

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Presentation Outline

- **Access Control and Roundabouts**
- **Roundabouts Near Traffic Signals**
- **Park City's Olympic Transit Center/Roundabout**
- **Other Local Examples**

Utah's First Traffic Circle *Circa 1930*

Utah's First Modern Roundabout *Circa 1995*

Why Roundabout?

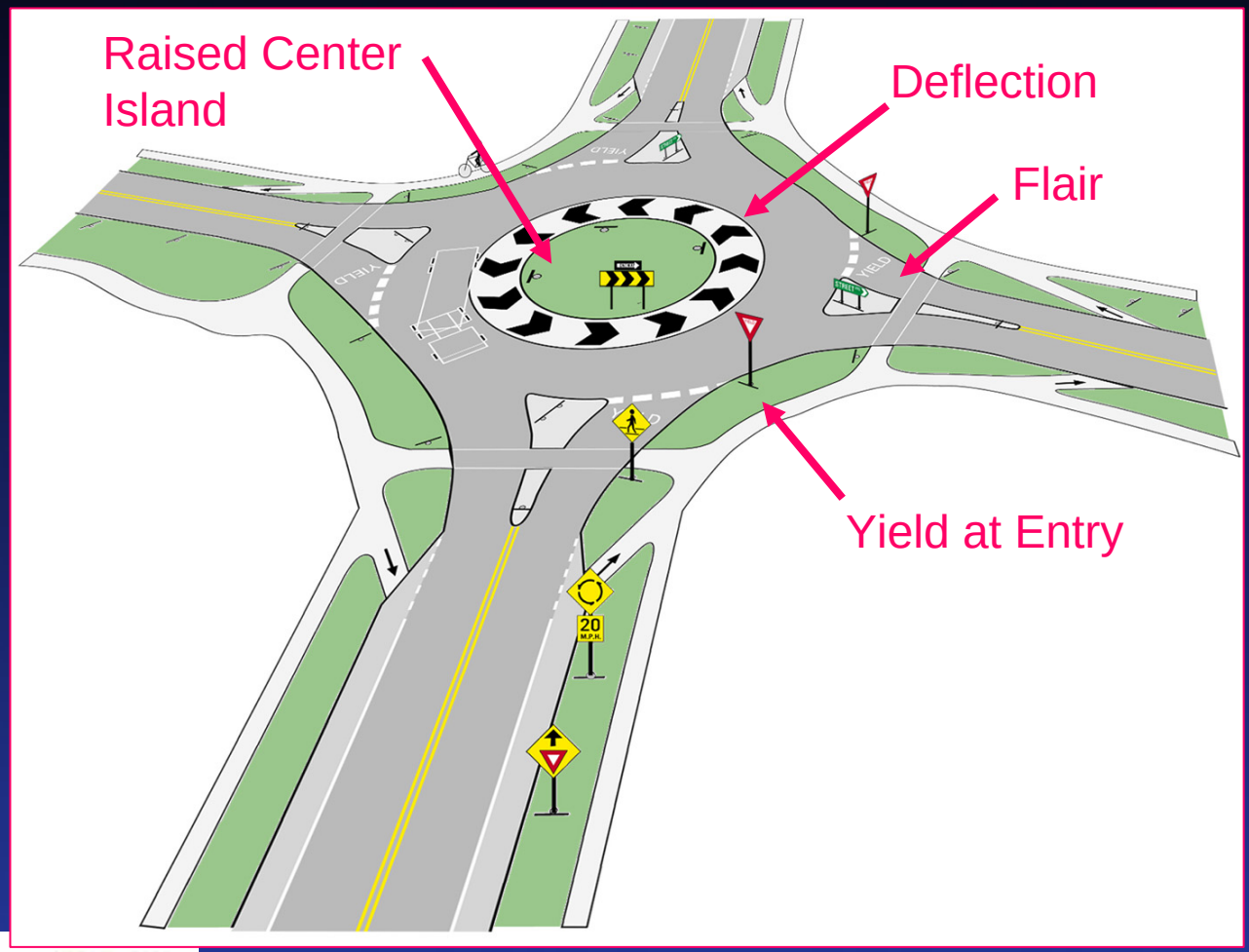
- **Skewed “Y” Intersection**
- **Limited ROW**
- **High Left-turn Volumes**
- **Traffic Backups**
- **Added Capacity for Future**
- **Safety/Speed Reduction**

Roundabout Advantages

- **Reduce Speeds**
- **Improved Safety**
- **Decrease Delay**
- **Entry Statement**
- **No Stop Signs**

Basic Design Principles

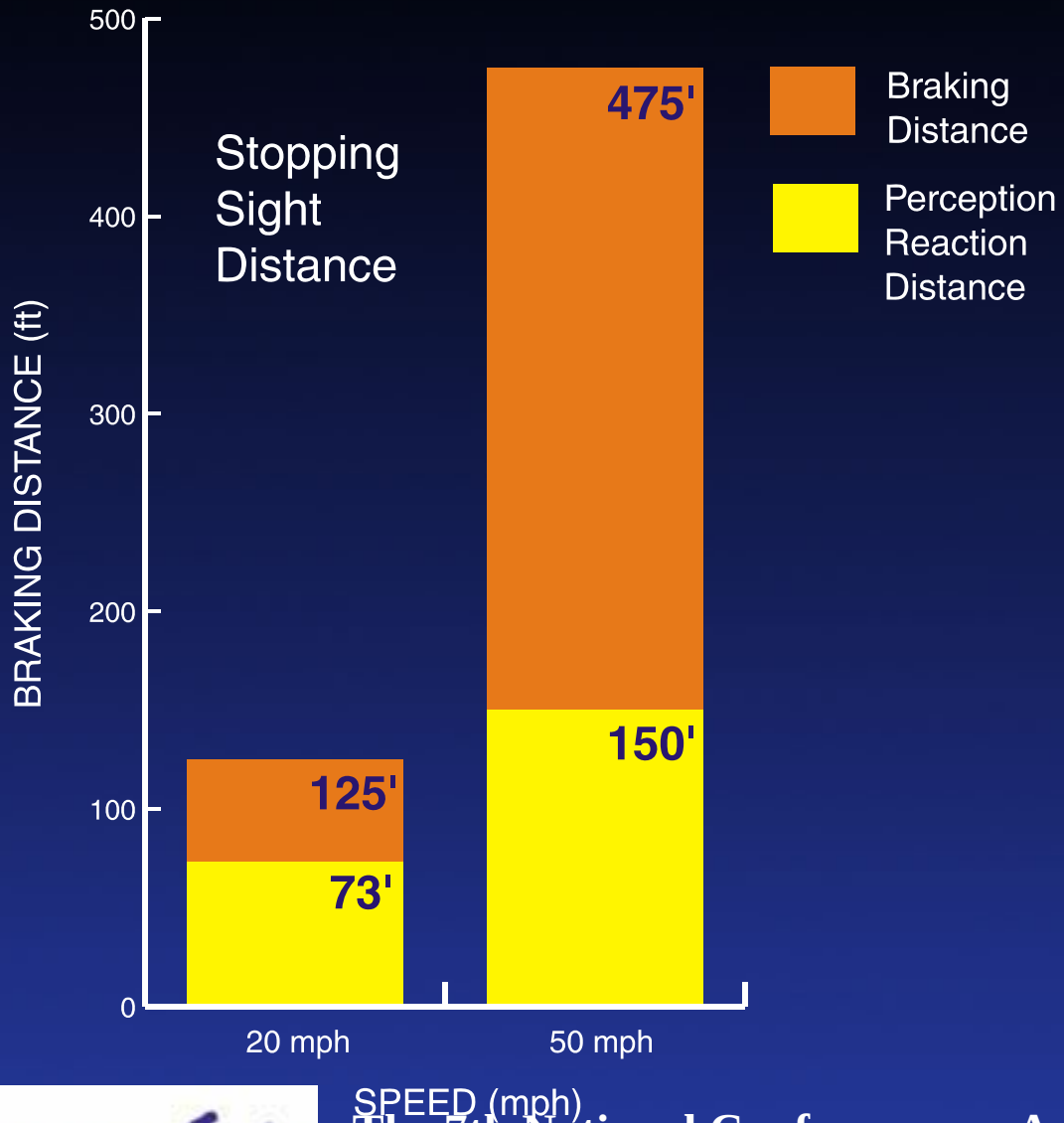
- **Yield at Entry**
- **Deflection**
- **Flare**



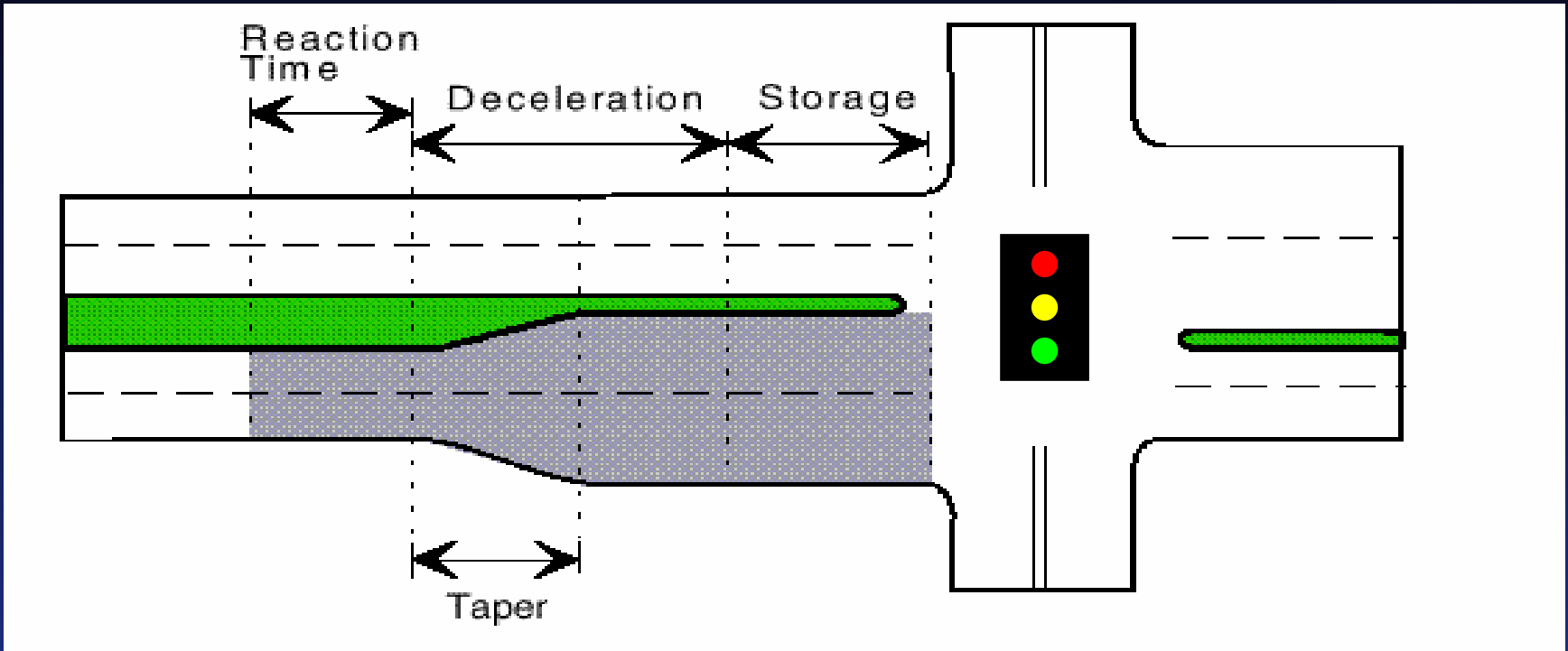
More Favorable Locations

- High Delays
- High Left-turn Flows
- Signal not Warranted
- Four-way Stop
- Skewed Intersection
- Near Existing Traffic Signals?

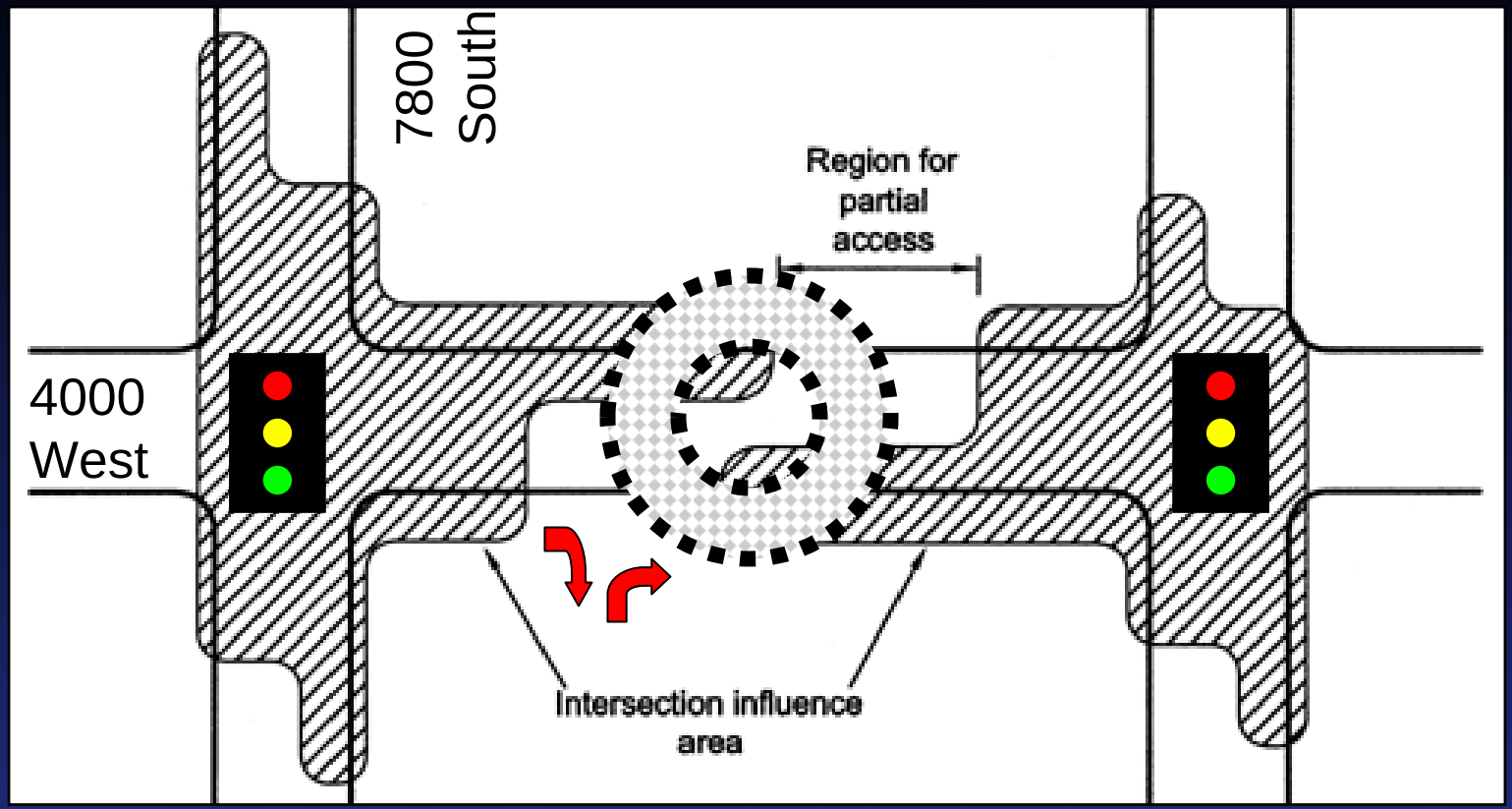
Braking Distance vs. Speed



Intersection Functional Area – Traffic Signal

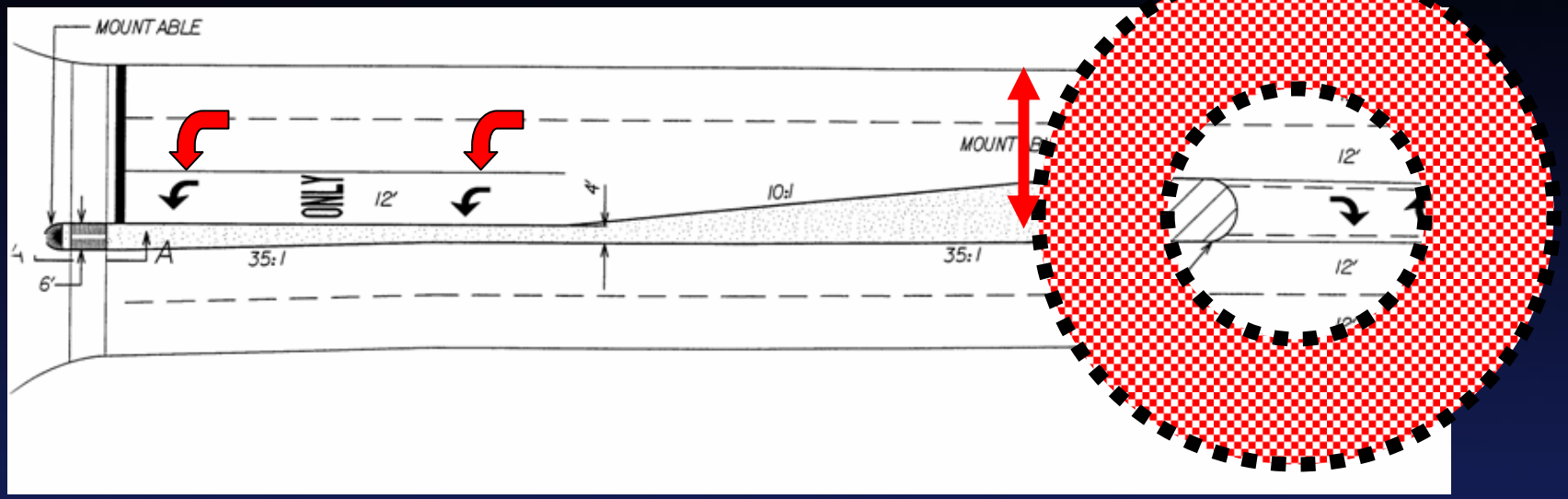


Roundabouts and Nearby Traffic Signals



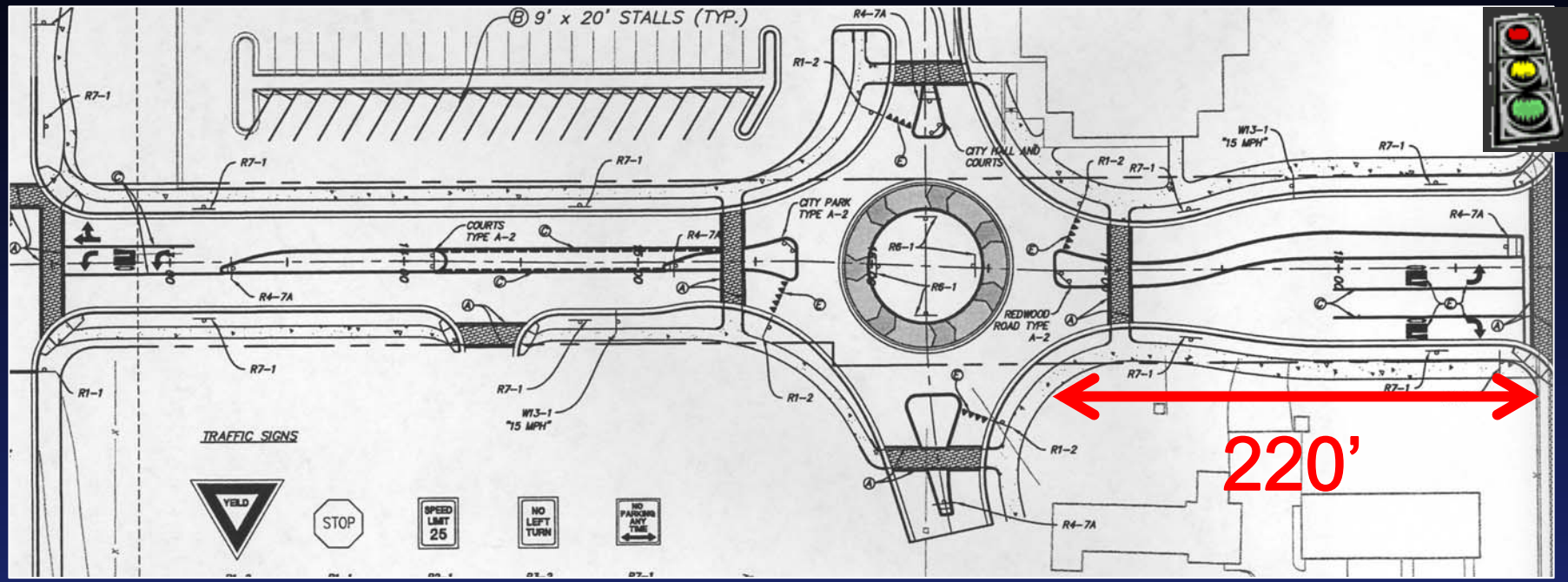
- **Why are roundabouts installed near traffic signals?**
- **To allow full-access within the influence areas of signalized intersections**

Traffic Signal with Raised Medians



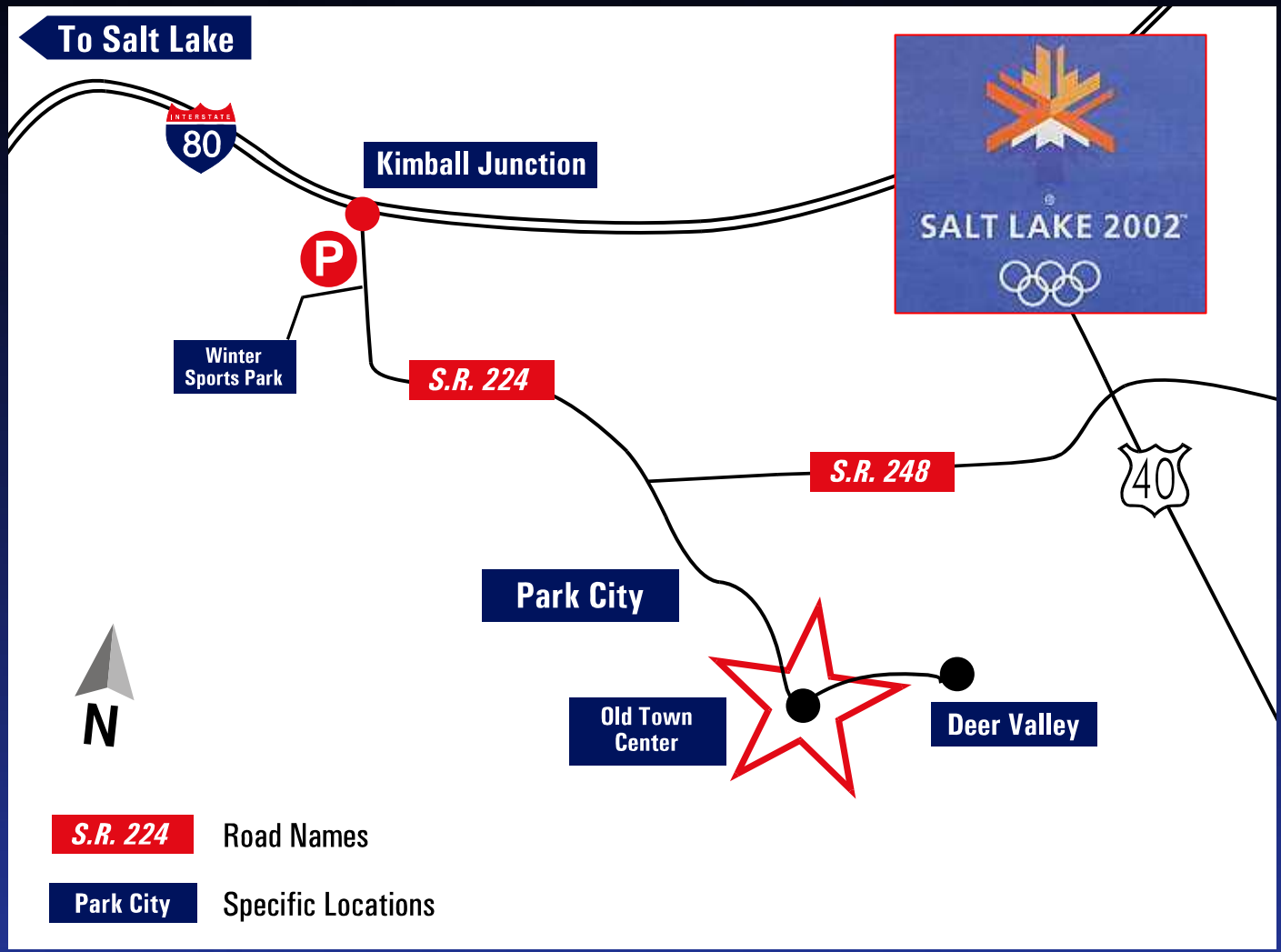
- **Allow wider entry width at the entrance to storage area to allow for spillover into roundabout**
- **If left-turn storage is exceeded a double-left may be warranted**

West Jordan, UT – 220-ft. Storage Length



2002 Salt Lake City Winter Olympic Venues

Park City, Utah Example - Location



Salt Lake 2002 Winter Olympics

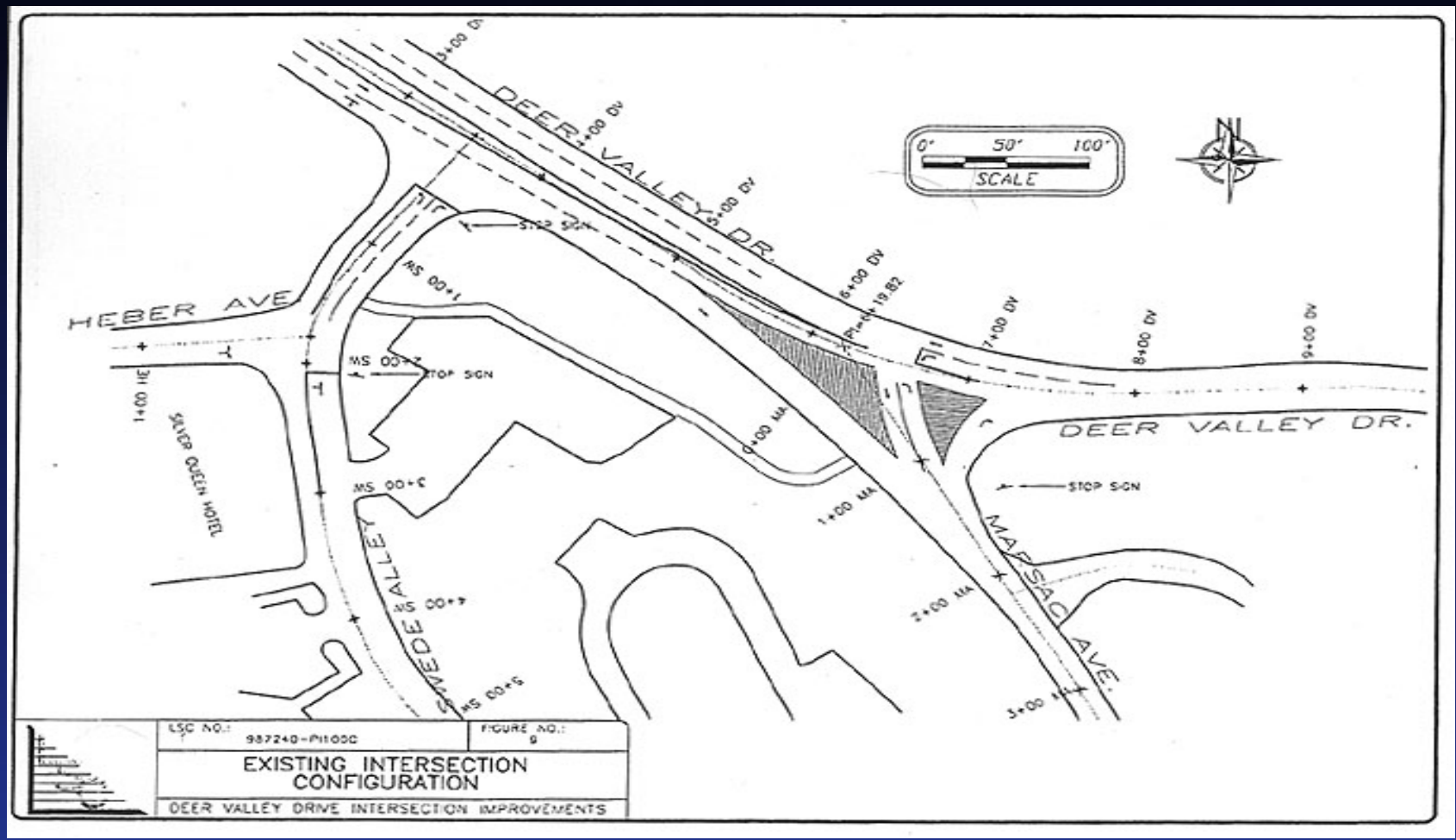
Salt Lake 2002 Winter Olympics

Deer Valley Winter Olympics

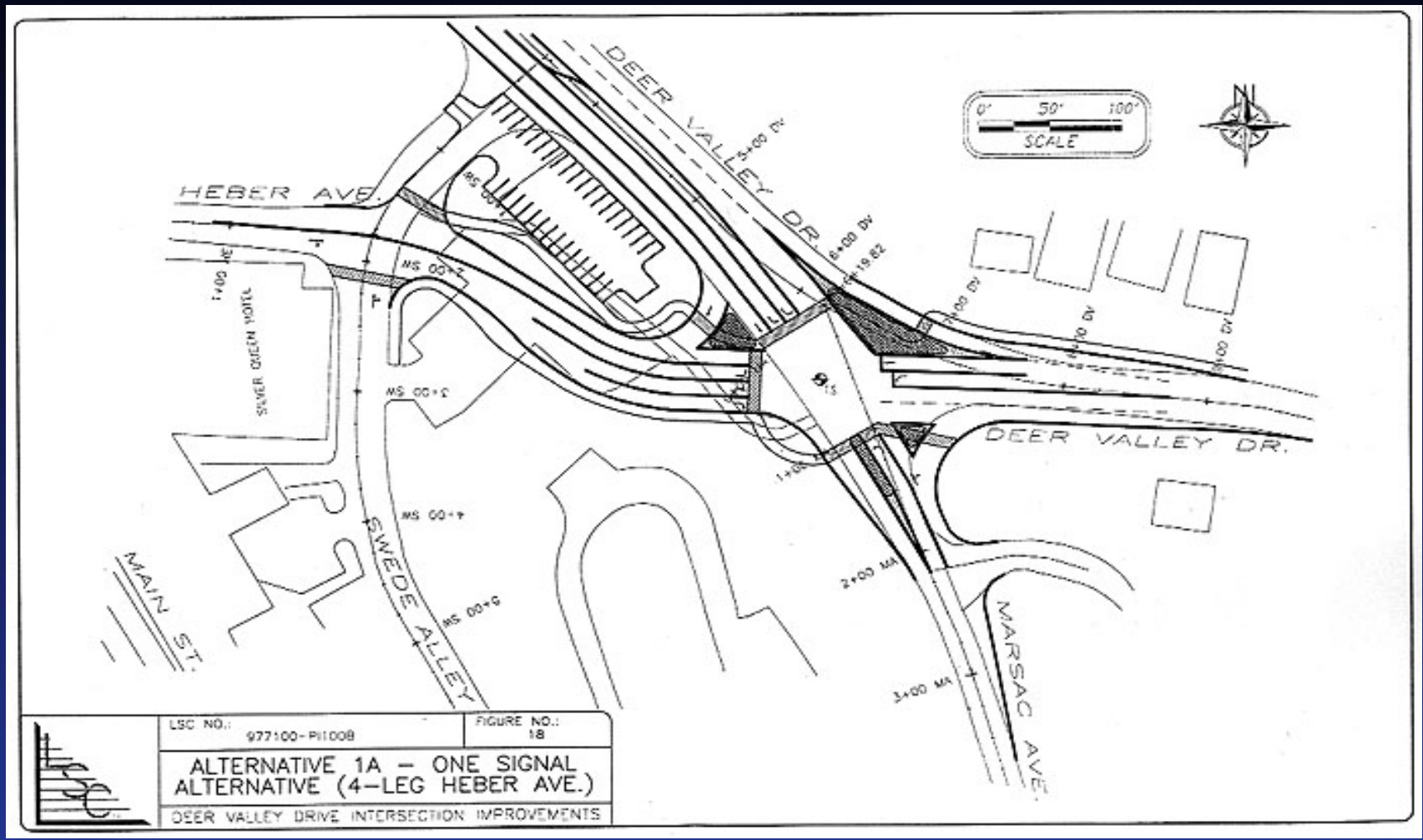
Transit Center Winter Olympics

Park City's Main Street Before Construction

Existing Conditions *Y-Intersection*



One Signal *Left-turn Storage Areas*



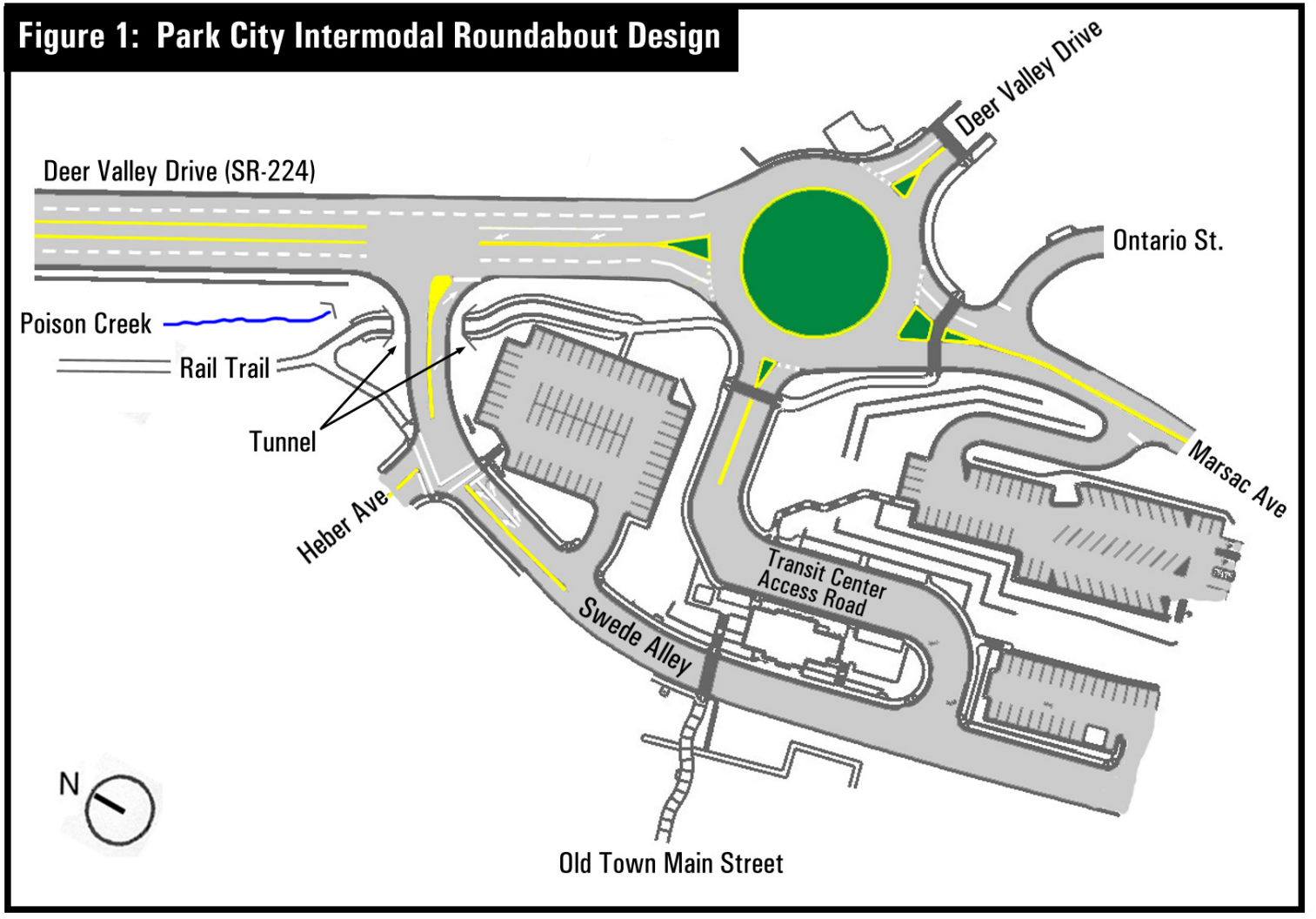
Design Goals

- Reduce speeds and accidents on SR-248
- Provide a high capacity intersection for the Olympics and allow access to the new transit center
- Include bike trail and pedestrian crossings
- Provide full access to Swede Alley


GATEWAY CENTER
MONROE

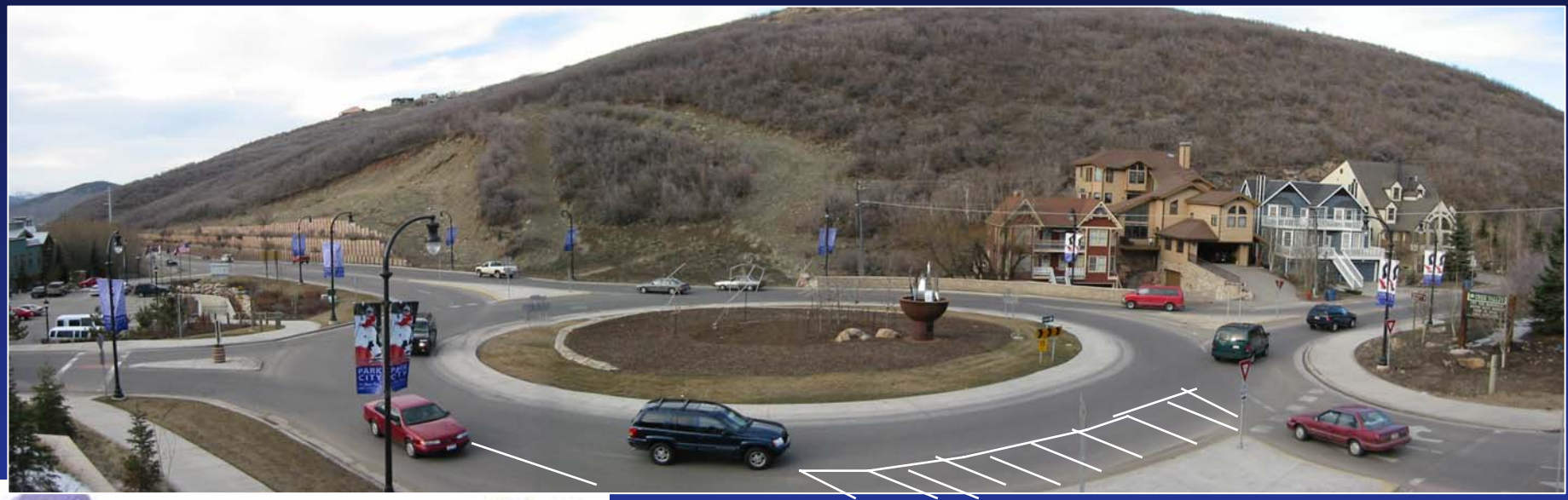
Park City Roundabout Design

Figure 1: Park City Intermodal Roundabout Design



Park City - SR 224 Intersection Alternatives

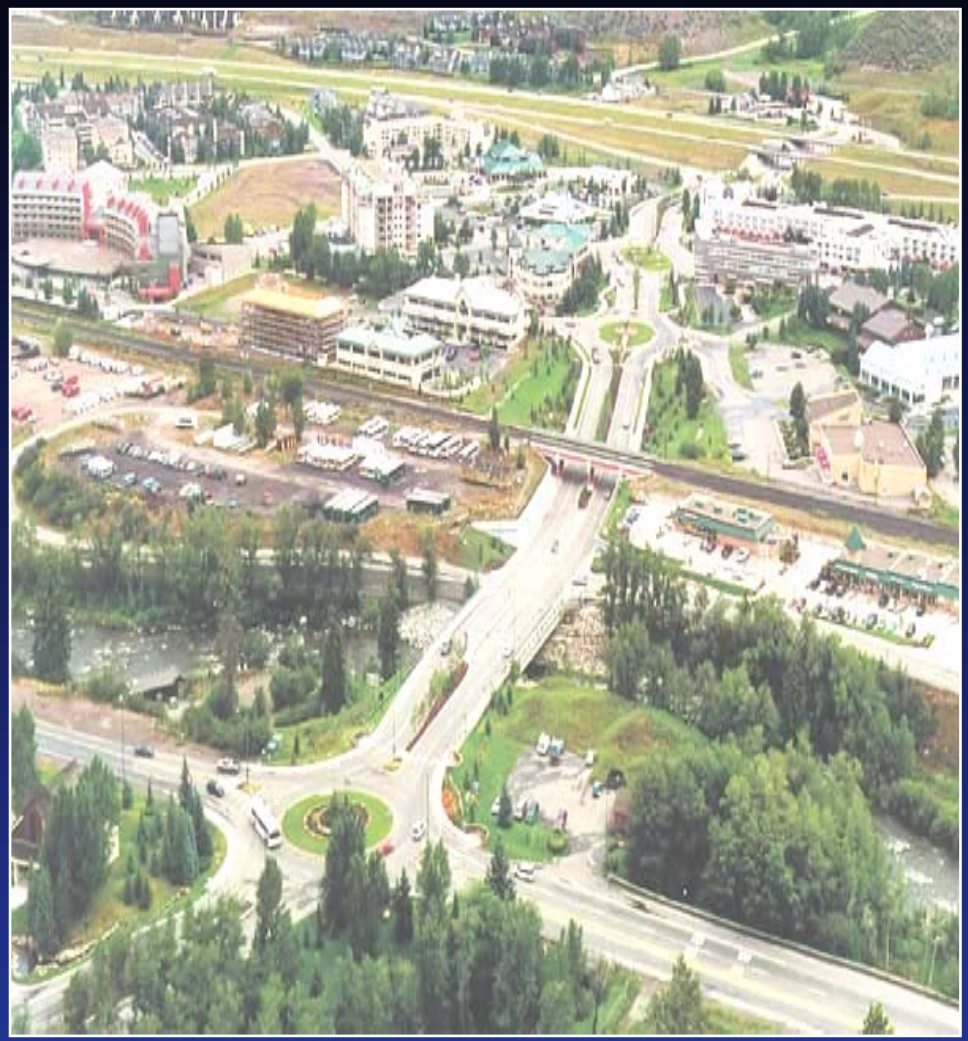
- **Signals**
- **Roundabouts**
- **Transit Center Connection**
- **Impacts to Historic Old Town**

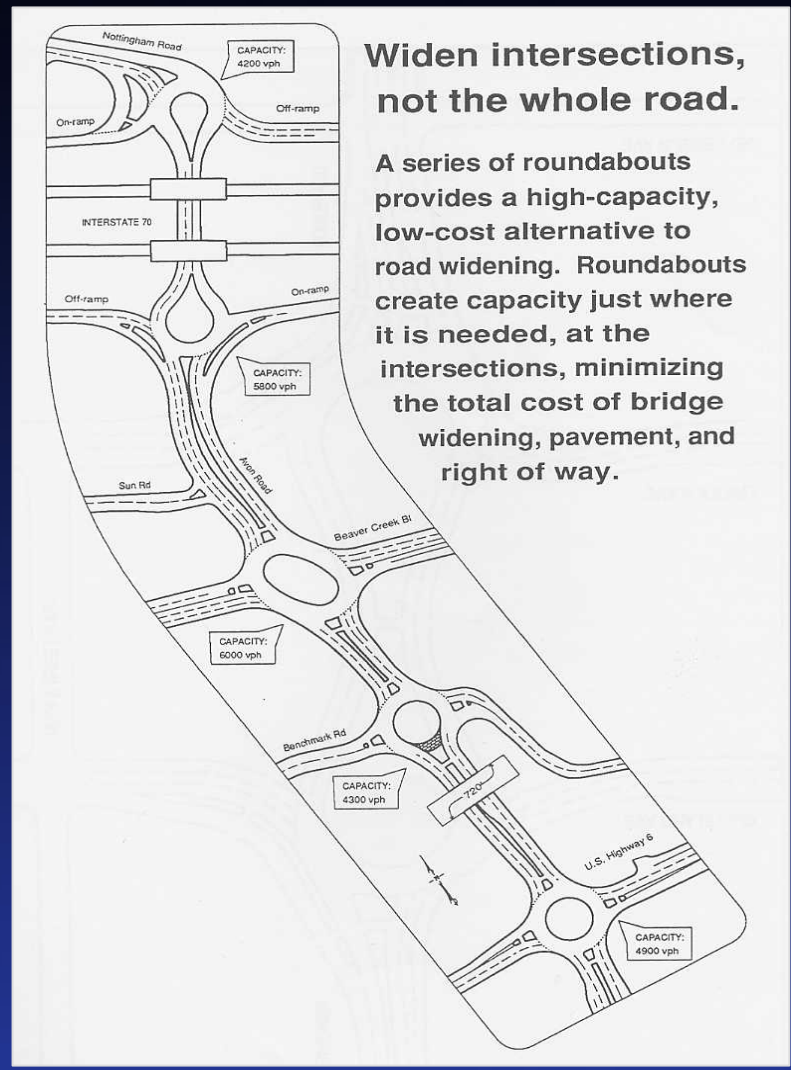


Roundabout Design Highlights

- **180 feet Inscribed Circle Diameter**
- **2-Lane Entries/Circulatory Lane**
- **23 mph Design Speed**
- **Capacity: 3,500 vph**
- **Design Vehicles: Bus, WB-67**
- **v/c: 0.85**

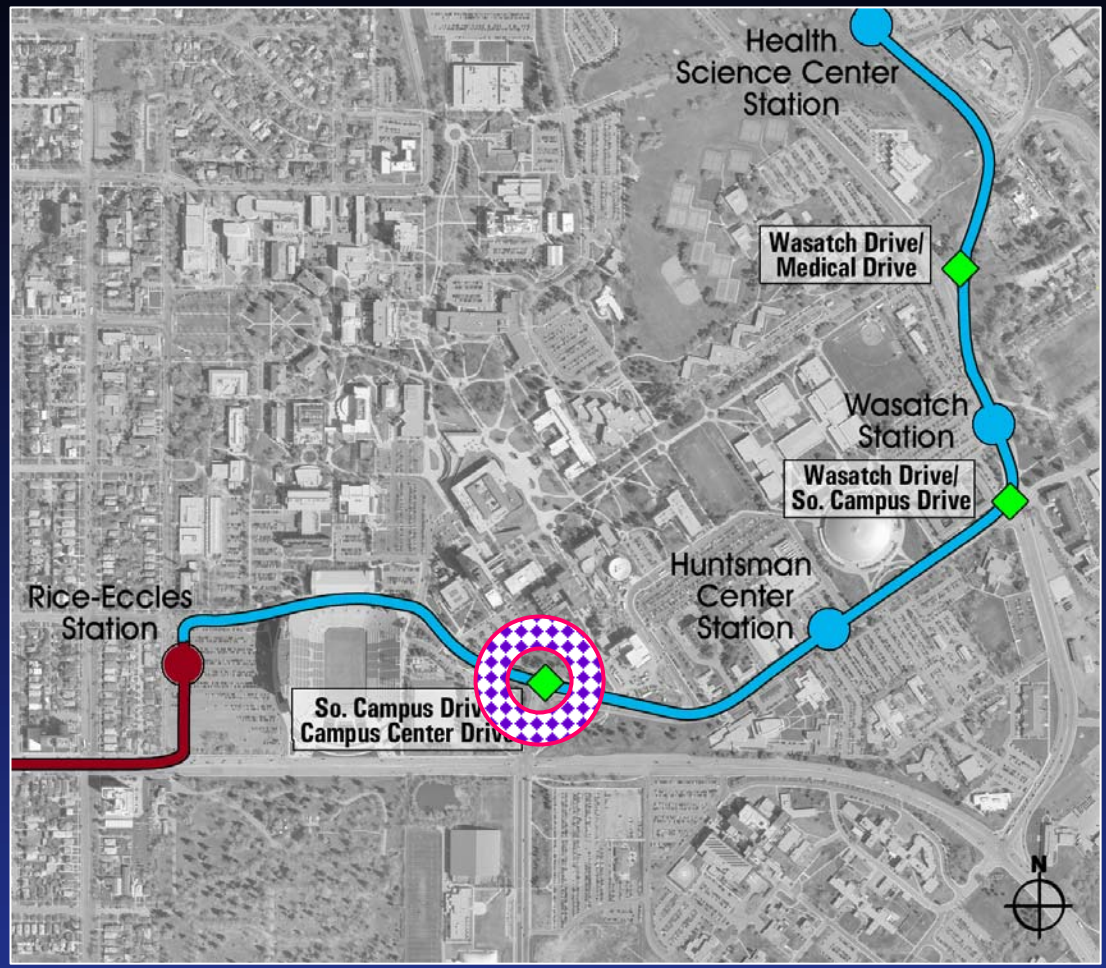
Avon, Colorado I-70 1997





Light Rail to University Hospital *2003*

- **1.5 Mile HSC Extension Opens Fall 2003**
- **9,500 HSC Employees**
- **500,000 Clinic Visits/yr.**
- **7,000 Walk-ins/day**

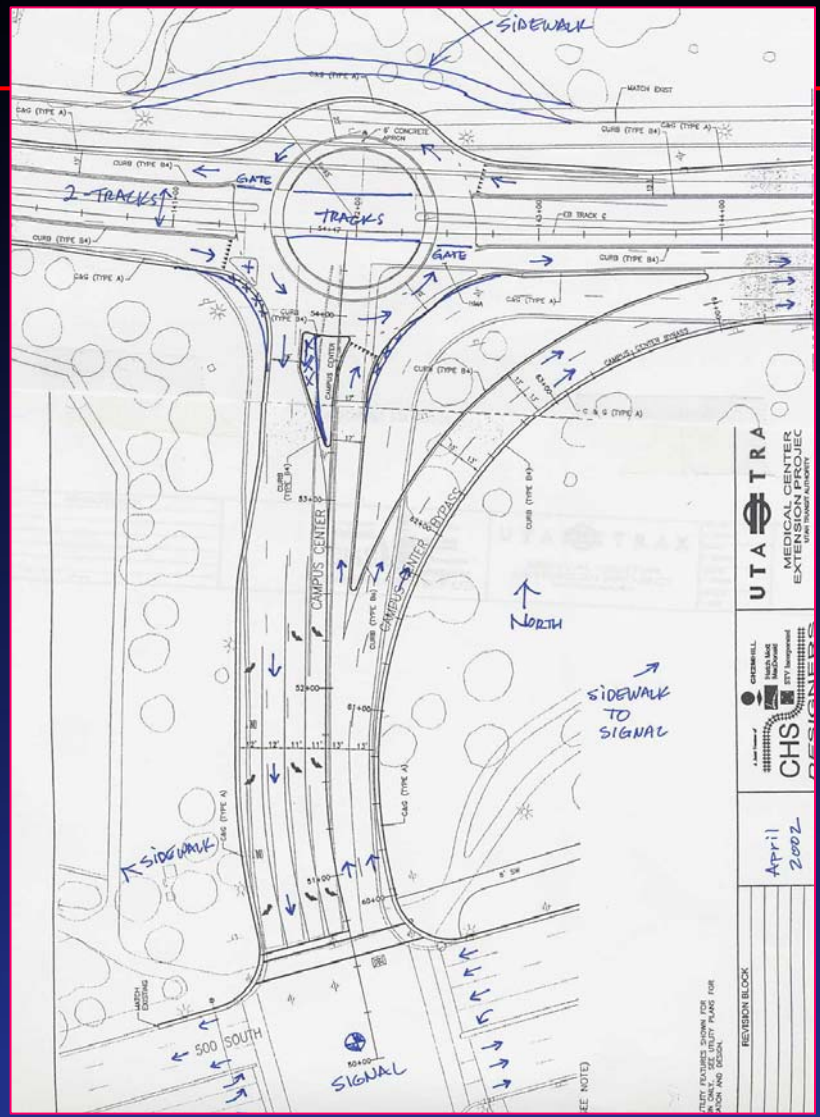


Existing T-Intersection (25+ Years Old)

- Stop-Controlled EB Thrus and WB Lefts
- Double Free-Rights NB
- Free Rights EB and Free-Thru WB

Access Management

- 350-ft spacing to traffic signal
- Eliminated 9 light rail track crossings
- Allowed shuttle bus system to continue with existing shelters on corridor
- Raised median with tracks allows for right-in/right-out at existing driveways
- Pedestrians all cross at traffic signals or on grade separated paths



University of Utah

Access Management and Light Rail Goals

- **Where to Put Stations/Spacing?**
- **Center Running vs. Side Running?**
- **Intersection Traffic Control: Signals or Roundabouts?**
- **Nearby traffic signal**
- **TRAX Interface with:**
  - **Driveways**
  - **UTA Bus**
  - **Campus Shuttle**
  - **Automobiles, and**
  - **Pedestrians**

Conclusions

- **Roundabouts can assist with access management**
- **The transit center with roundabout provided a safe high capacity intersection in a small space while providing full access to the commercial area and ski resorts.**