

# Draper Master Transportation Plan Open House



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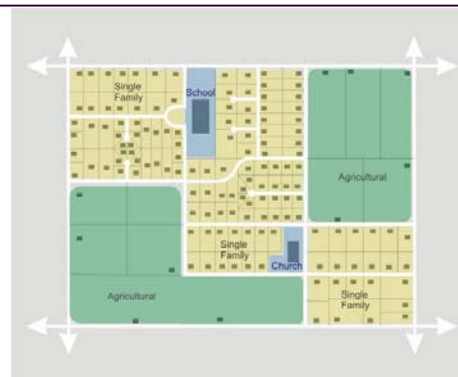


# Development and Traffic Growth



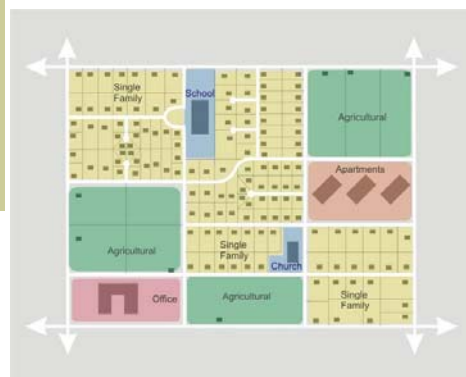
## Development Phase I – 10% Developed

| Land Use                   | Description | Trips per Day |
|----------------------------|-------------|---------------|
| Farm                       | 22 Farms    | 258           |
| Single Family              | 8 Homes     | 101           |
| <b>Total Trips per Day</b> |             | <b>359</b>    |



## Development Phase II– 60% Developed

| Land Use                   | Description       | Trips per Day |
|----------------------------|-------------------|---------------|
| Farm                       | 11 Farms          | 134           |
| Single Family              | 139 Homes         | 1,407         |
| School                     | 1 w/ 400 students | 516           |
| Church                     | 1 w/ 20,000sq/ft  | 182           |
| <b>Total Trips per Day</b> |                   | <b>2,239</b>  |



## Development Phase III– 80% Developed

| Land Use                   | Description       | Trips per Day |
|----------------------------|-------------------|---------------|
| Farm                       | 5 Farms           | 61            |
| Single Family              | 143 Homes         | 1,444         |
| Apartment                  | 125 Apartments    | 901           |
| School                     | 1 w/ 500 students | 645           |
| Church                     | 1 w/ 20,000sq/ft  | 182           |
| Office                     | 1 w/ 25,000 sq/ft | 458           |
| <b>Total Trips per Day</b> |                   | <b>3,691</b>  |



## Development Phase IV– Fully Developed

| Land Use                   | Description       | Trips per Day |
|----------------------------|-------------------|---------------|
| Single Family              | 143 Homes         | 1,444         |
| Townhouse                  | 200               | 1,173         |
| Apartment                  | 170 Apartments    | 1,172         |
| School                     | 1 w/ 600 students | 774           |
| Church                     | 1 w/ 20,000sq/ft  | 182           |
| Office                     | 2 w/ 35,000 sq/ft | 1,188         |
| Supermarket                | 1 w/ 55,000 sq/ft | 5,073         |
| <b>Total Trips per Day</b> |                   | <b>11,006</b> |

# Transportation Goals and Objectives

Goal 1 – Draper City shall create an inter-connected street system.

Objective: The inter-connected street system shall:

- Enhance links between streets
- Coordinate with adjacent communities
- Provide a grid of alternative routes
- Serve to disperse traffic

# Transportation Goals and Objectives

**Goal 2 – Draper City shall provide multi-modal transportation opportunities.**

**Objective: The multi-modal transportation system shall include the following components:**

- Tie into the regional transit system of TRAX and commuter rail
- Provide a regional example of successful bicycle opportunities
- Provide a more walkable city
- Provide an interconnected system of trails for regional activity centers



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# Transportation Goals and Objectives

Goal 3 – Draper City shall provide a transportation system which complements land uses in the city.

Objective: Complementing land uses includes the following:

- Provide street cross sections which vary by adjacent land use
- Provide street cross sections which maintain and enhance the character of historic areas



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# Transportation Goals and Objectives

Goal 4 – Draper City shall create a transportation system for the future.

Objective: Creating a transportation system for the future means the following:

- Provide a network for all modes of travel
- Consider options for future generations and future transportation demands
- Consider funding in the development of plans



# Problems and Needs

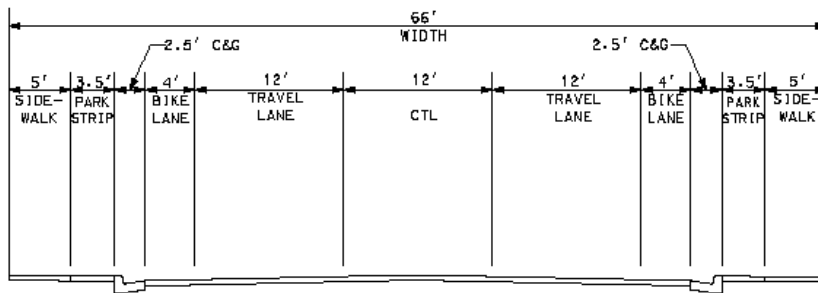
- North/South connectivity
- East/West connectivity within Draper
- Preservation of character of Draperville (i.e. historical areas)
- Accommodate future growth on the west side of Draper – near Bangerter and 12300 South
- Transportation bottleneck at Point of the Mountain
- Future accommodation and growth at South Pointe area – not enough connectivity to other modes
- Foster walkable town center at Pioneer Road and 1000 East

# Problems and Needs

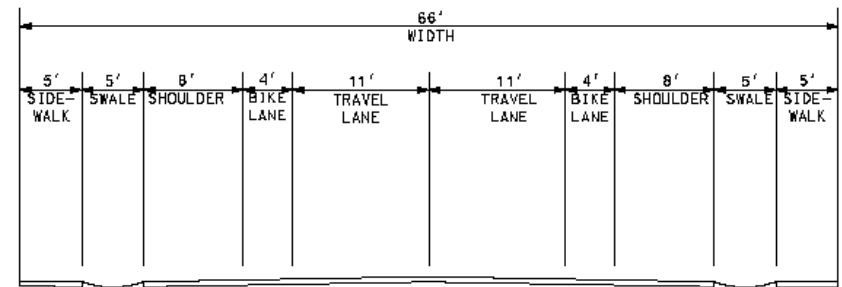
- Secondary access needed for Manilla Drive
- Connectivity and access for pedestrians and bikes
- Structured guidelines for future developments
- 1300 East not accommodating current traffic demands
- SunCrest development snow removal and parking
- Parking issues throughout the city due to lack of ordinance – new ordinance needed
- Intersection of Highland, Bangerter, and Traverse Ridge Road
- Signal needed at intersection of 300 East and Pioneer Road



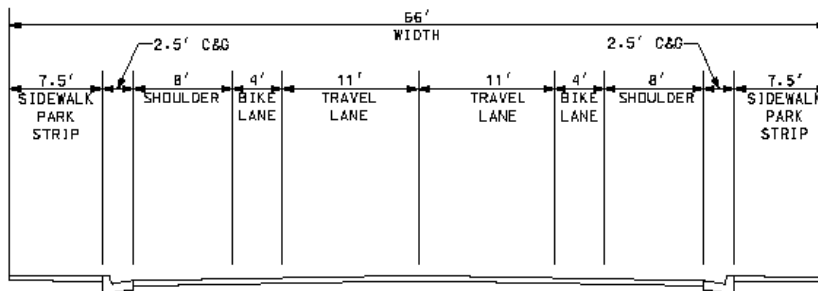
# Minor Collectors



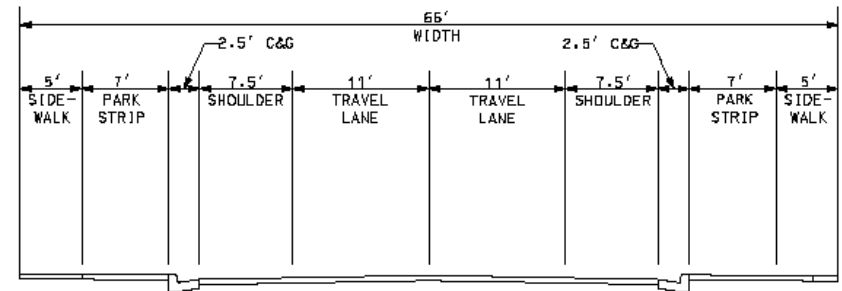
MINOR COLLECTOR  
COMMERCIAL



MINOR COLLECTOR  
HISTORIC

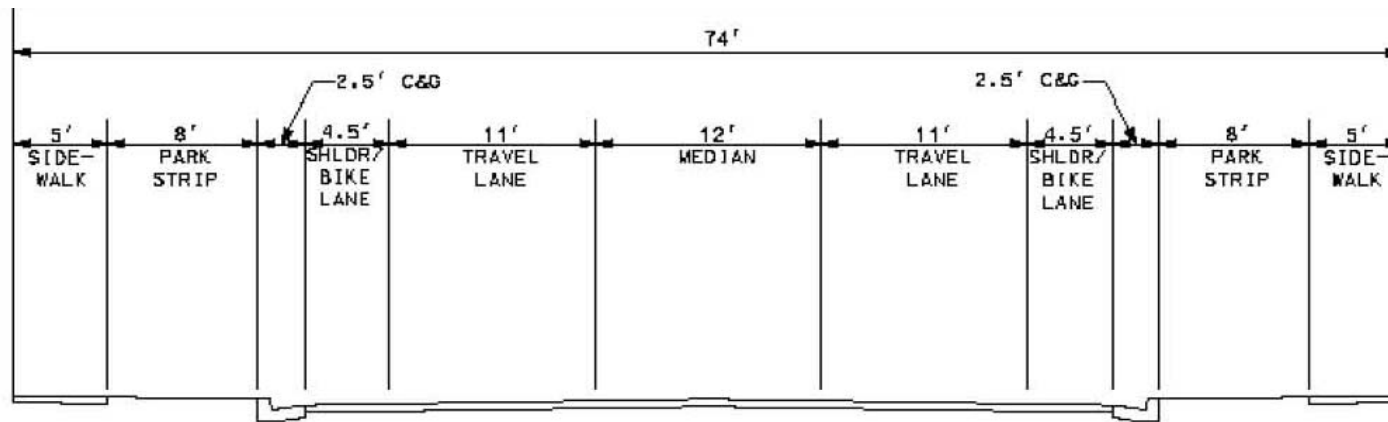


MINOR COLLECTOR  
RESIDENTIAL  
WITH BIKE LANE

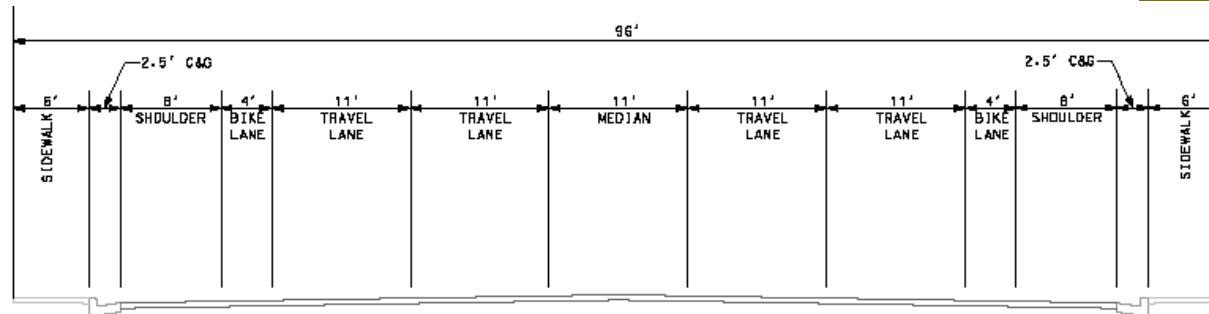


MINOR COLLECTOR  
RESIDENTIAL

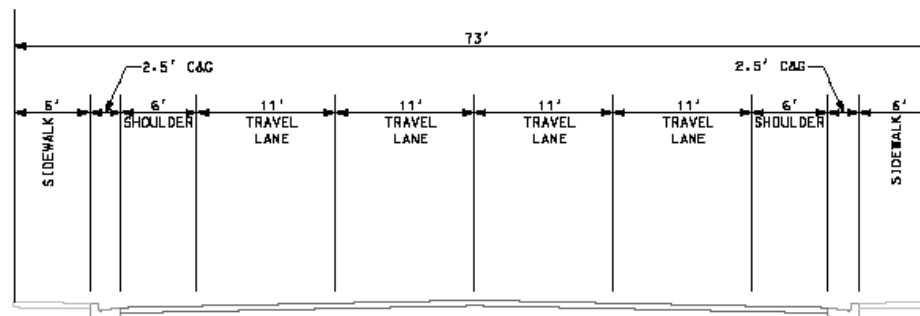
# Major Collector



# Minor Arterials

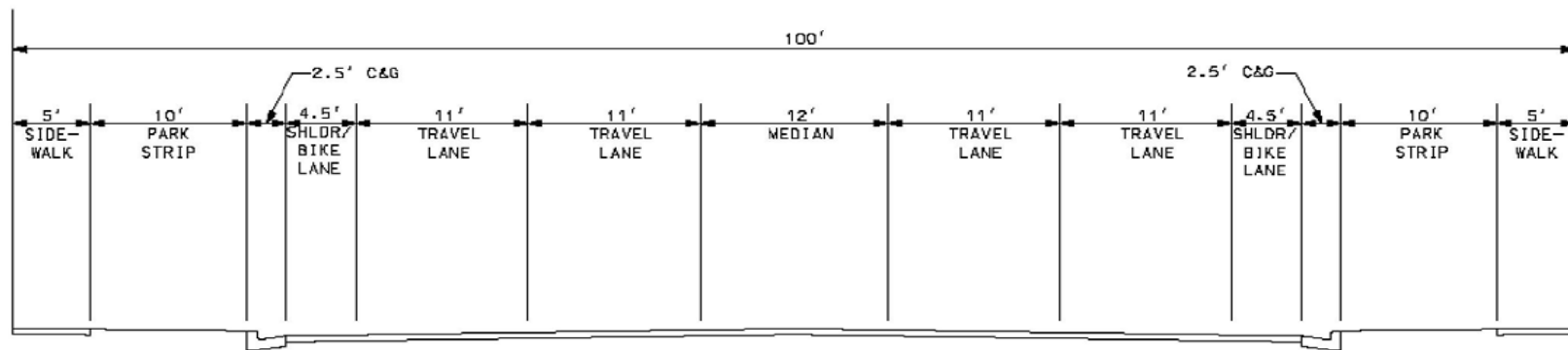


DRAPER CITY  
5 LANE MINOR ARTERIAL



DRAPER CITY  
4 LANE MINOR ARTERIAL

# Major Arterial



# Ditches & Swales – no pavement edge



## Ditches

- Steep slope
- Hard to maintain



## Informal swales

- No slope
- No runoff storage potential



## Swales

- No protection for asphalt
- Rural character
- Allows runoff to be re-absorbed
- No protection to/from trees
- Hard to maintain



# Curbs protect the roadway

Mountable curbs



## Curbs

- Sidewalks are optional
- Protect asphalt
- Collect runoff and distribute to sewer system
- Less maintenance

Traditional curbs



# Comparison of Signals to Roundabouts

## Signals

- Greater traffic volume capacity
- More pedestrian friendly



## Roundabouts

- Low volume intersections have less delay
- Require more land
- Can be landscaped
- Slow traffic





# 300 East & 1300 East Roundabouts

- Future traffic volumes exceed single lane roundabout capacity
- Roundabouts can be replaced with signals or two-lane roundabouts
- Two lane roundabout would require additional right-of-way at intersection



■ Additional Land Required for Roundabout  
■ Additional Land Required for Signal

# Bike Routes vs. Bike Lanes



## Bike Routes

- Used to help direct cyclists to other routes/lanes
- Cyclists ride in unmarked shoulders
- Road is signed every ¼ mile



## Bike Lanes

- One-way bicycle lanes on the right side of the roadway
- Cyclists move in the same direction as the adjacent travel lane
- Bike Lane is designated by striping on road

# Transportation Plan Coordination

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- Highways–UDOT and the Wasatch Front Regional Council
- Transit–UTA
- Neighboring Cities–Bluffdale, Highland, Riverton, Sandy, South Jordan
- Pedestrian & Bike–Draper City Parks and Trails Committee



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# Draper Master Transportation Plan

## Public Input

- Three Meetings with Citizen Transportation Committee (CTC)
  - City Council Representative
  - Planning Commission Representative
  - Business Representatives
  - Neighborhood Group Representatives
  - Parks and Trails Representatives
  - Home Builders Representatives
  - School Representatives
  - UDOT Staff Representatives
- Public Open House on September 25, 2007
- Planning Commission and City Council Hearing Process Beginning with Council Briefing on September 11, 2007
- Email, Telephone and Written Comments Welcome



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# Draper Master Transportation Plan

## Major Changes from 2003

- Introduced  
Minor Arterial Road Cross Section
  - 1300 East
  - 300 East
  - 13800 South
  - Galena Park Drive
- Modified Minor Collector Cross Section Standards to be based on Land Use
- Suggested 13800 South I-15 Crossing
- Added Transportation Focus on West Side of Draper City



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# Draper Master Transportation Plan Schedule

2007

|                      | Feb. | March | April | May | June | July | August | Sept. | Oct. |
|----------------------|------|-------|-------|-----|------|------|--------|-------|------|
| Administration       |      |       |       |     |      |      |        |       |      |
| Review Existing Plan |      |       |       |     |      |      |        |       |      |
| Data Collection      |      |       |       |     |      |      |        |       |      |
| Travel Modeling      |      |       |       |     |      |      |        |       |      |
| Plan Evaluation      |      |       |       |     |      |      |        |       |      |
| Public Involvement   |      |       |       | CTC | CTC  |      | CTC    | OH    |      |
| Document Development |      |       |       |     |      |      |        |       |      |
| Plan Adoption        |      |       |       |     |      |      |        | AP    | AP   |

CTC Community Transportation Committee

OH Open House

AP Approval Process (Not Scheduled)



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# Street System

## Level of Service Definitions



Level of Service A



Level of Service B



Level of Service C



Level of Service D



Level of Service E



Level of Service F



# Draper Master Transportation Plan Process

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1. Identify goals, objectives and issues
2. Inventory current transportation system
3. Determine land use growth and forecast travel demand
4. Assess existing capacity and safety deficiencies
5. Assess potential Alternatives  
(current step)
6. Develop a recommended transportation plan



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# Level of Service C Capacities

## ■ Typical State of Utah Level of Service C Collector capacities

### Capacity for Collector Roads

| <u>Number of Lanes, Configuration</u> | <u>LOS C</u> |
|---------------------------------------|--------------|
| 2, no turn lanes                      | 5,800        |
| 2, with turn lanes                    | 10,200       |
| 4, no turn lanes                      | 22,100       |

## ■ Typical State of Utah Level of Service C Arterial capacities

### Capacity for Arterial Roads

| <u>Number of Lanes, Configuration</u> | <u>LOS C</u> |
|---------------------------------------|--------------|
| 2, no turn lanes                      | 11,700       |
| 2, with turn lanes                    | 18,000       |
| 4, no turn lanes                      | 36,300       |
| 6, with turn lanes                    | 50,000       |

# Functional Class Definitions

- Freeway– Divided, higher speed, large volume roads with limited access and without intersections
- Arterial– Roads that carry large volumes of traffic between geographic locations. Often divided into major and minor categories
- Collector– Moderate capacity road that collects local road traffic and leads it to larger roads. Generally four or fewer lanes
- Local Road–Residential low capacity roads

# 300 East



## Average Level of Service at Build out

- Three Lane: E  
(13,000 vehicles per day)
- Four Lane: C  
(18,000 vehicles per day)

## Property Impacts

- Four Lane: 0

## Other Issues

- Round-about
- No turn lane with 4 lane option
- No bike lane with 4 lane option

# 1300 East

## Average Level of Service at Build out without Highland Drive

- Three Lane: F  
(15,000 vehicles per day)
- Four Lane: C  
(17,000 vehicles per day)
- Five Lane: C  
(19,000 vehicles per day)

## Average Level of Service at Build out with Highland Drive

- Three Lane: E  
(13,000 vehicles per day)
- Four Lane: C  
(14,000 vehicles per day)
- Five Lane: C  
(16,000 vehicles per day)

## Property Impacts

- Four Lane: 0
- Five Lane: 4



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# 13800 South



## Average Level of Service at Build out without Highland Drive

- Three Lane: E  
(12,000 vehicles per day)
- Four Lane: C  
(16,000 vehicles per day)
- Five Lane: C  
(19,000 vehicles per day)

## Average Level of Service at Build out with Highland Drive

- Three Lane: E  
(13,000 vehicles per day)
- Four Lane: C  
(17,00 vehicles per day)
- Five Lane: C  
(20,000 vehicles per day)

## Property Impacts

- Four Lane: 2
- Five Lane: 12