Ivins City
Transportation Master Plan Update

December 3, 2015 Draft Presentation to Council

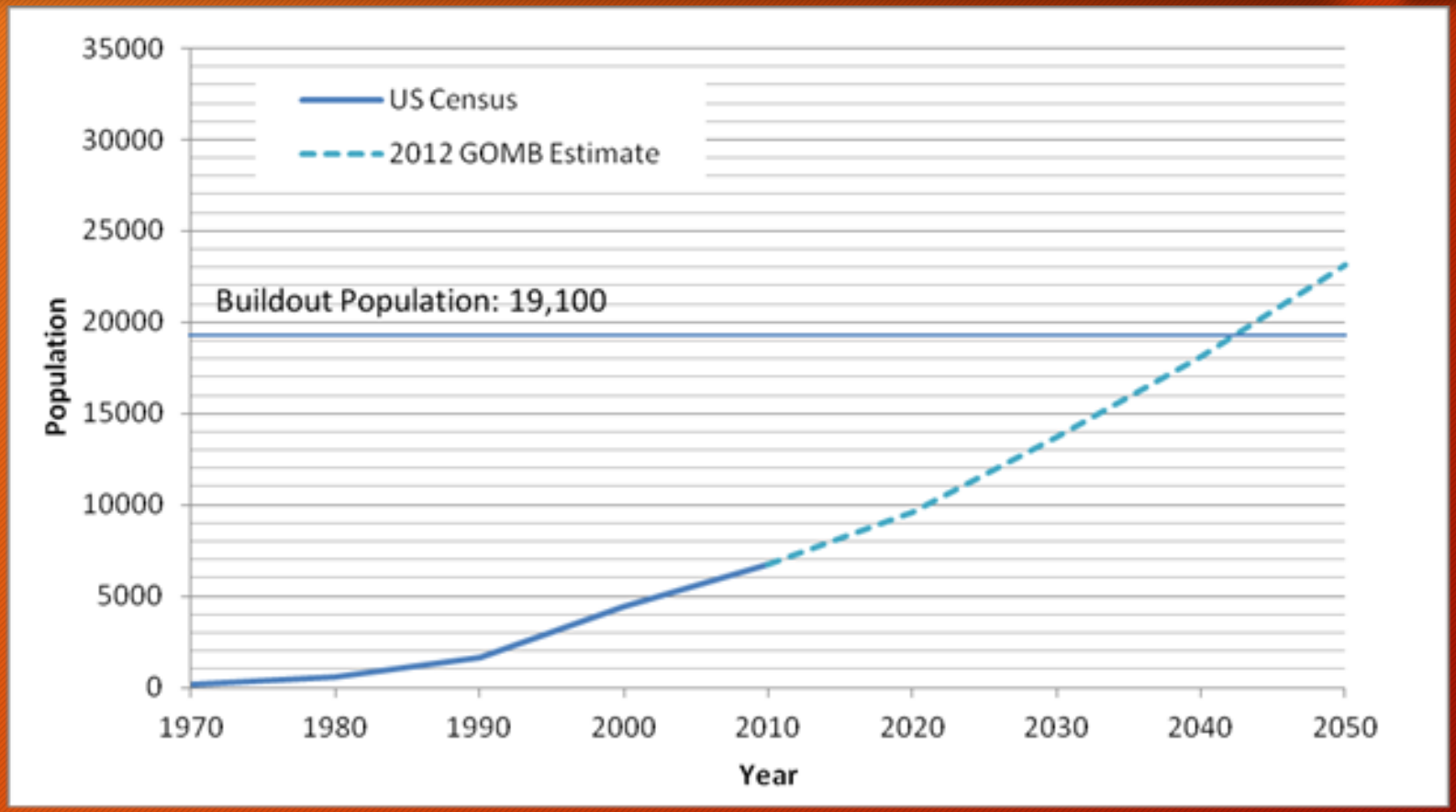
Summary of Updates

- Update of Traffic Counts/Accident Data
- Update of Population Projections
- Incorporation of past amendments.
- Revision of important figures.
- Update of Transportation Improvement Plan

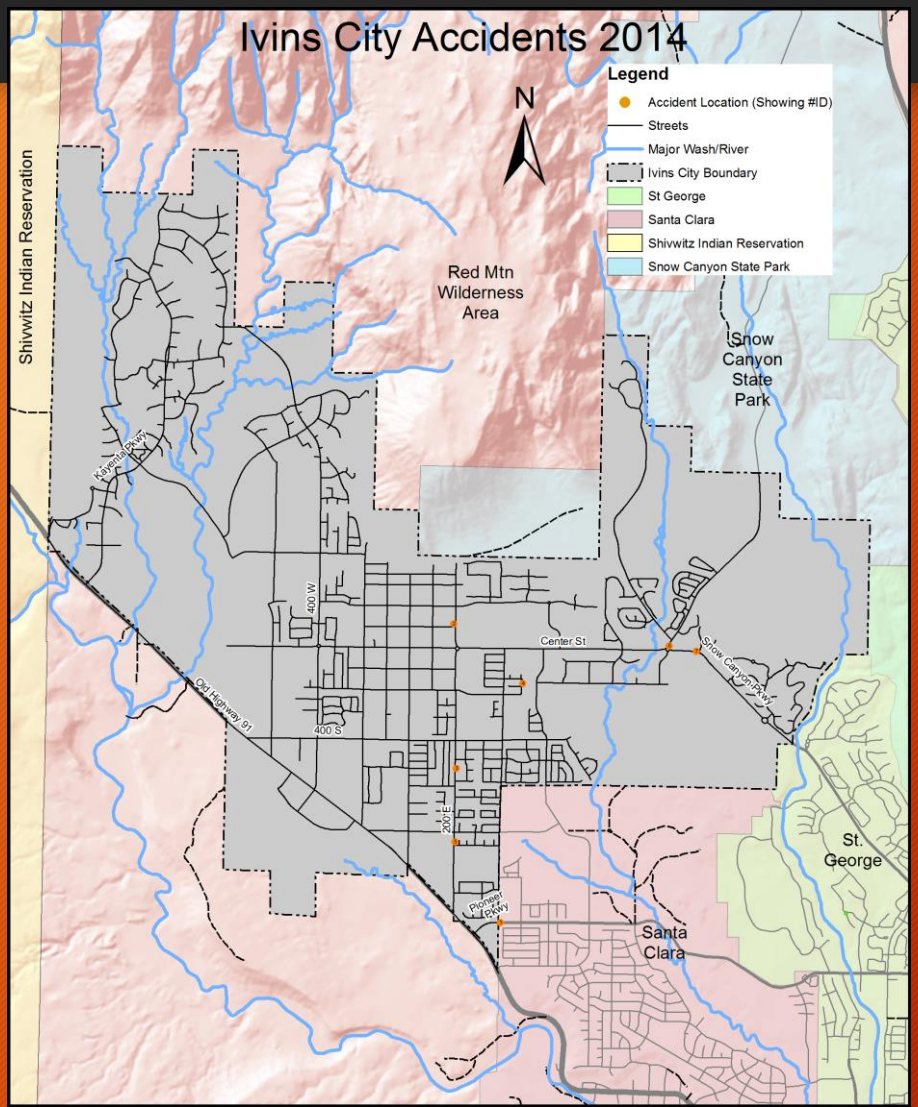
Traffic Counts

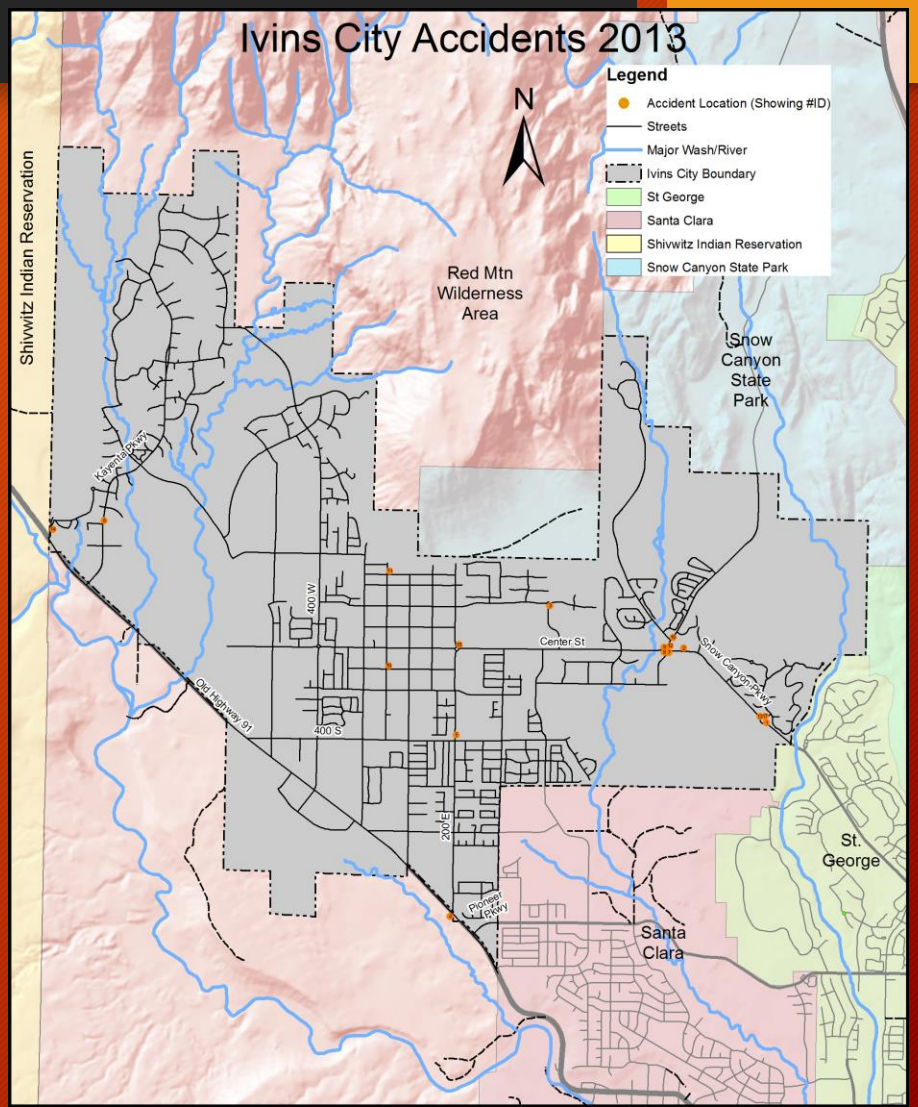
EXISTING VOLUMES								
Intersection Label	Intersection Name	2008 AM	2008 (PM)	2015 AM	2015 (PM)	AM Growth %	PM Growth %	Total Growth %
A	400 W & Center St.	101	255	144	159	42.57%	-37.65%	4.93%
B	Main St. & Center St.	253	240	288	343	13.83%	42.92%	56.75%
C	200 E & Center St.	454	405	517	488	13.88%	20.49%	34.37%
D	400 E & Center St.	400	417	620	475	55.00%	13.91%	68.91%
E	Puerto Dr. & Center St.	406	509	591	582	45.57%	14.34%	59.91%
F	S.C. Dr. & Center St.	530	678	1141	773	115.28%	14.01%	129.29%
G	S.C. Dr. & Tuacahn Dr.	259	179	438	185	69.11%	3.35%	72.46%
H	400 W & 400 S	79	177	94	92	18.99%	-48.02%	-29.04%
I	Main St. & 400 S	126	204	73	128	-42.06%	-37.25%	-79.32%
J	400 E & 400 S	277	243	217	146	-21.66%	-39.92%	-61.58%
K	Puerto Dr. & 400 S	118	182	242	149	105.08%	-18.13%	86.95%
L	400 E & 800 S	236	266	226	162	-4.24%	-39.10%	-43.34%
M	400 E & Pioneer Pkwy.	315	388	330	280	4.76%	-27.84%	-23.07%
N	Hwy. 91 & Pioneer Pkwy.	444	620	421	569	-5.18%	-8.23%	-13.41%
O	200 E & Hwy. 91	387	559	381	528	-1.55%	-5.55%	-7.10%
P	400 S & 200 E	317	305	267	271	-15.77%	-11.15%	-26.92%
	TOTALS	4702	5627	5990	5330	27.39%	-5.28%	22.11%

Figure 5 Population Projections

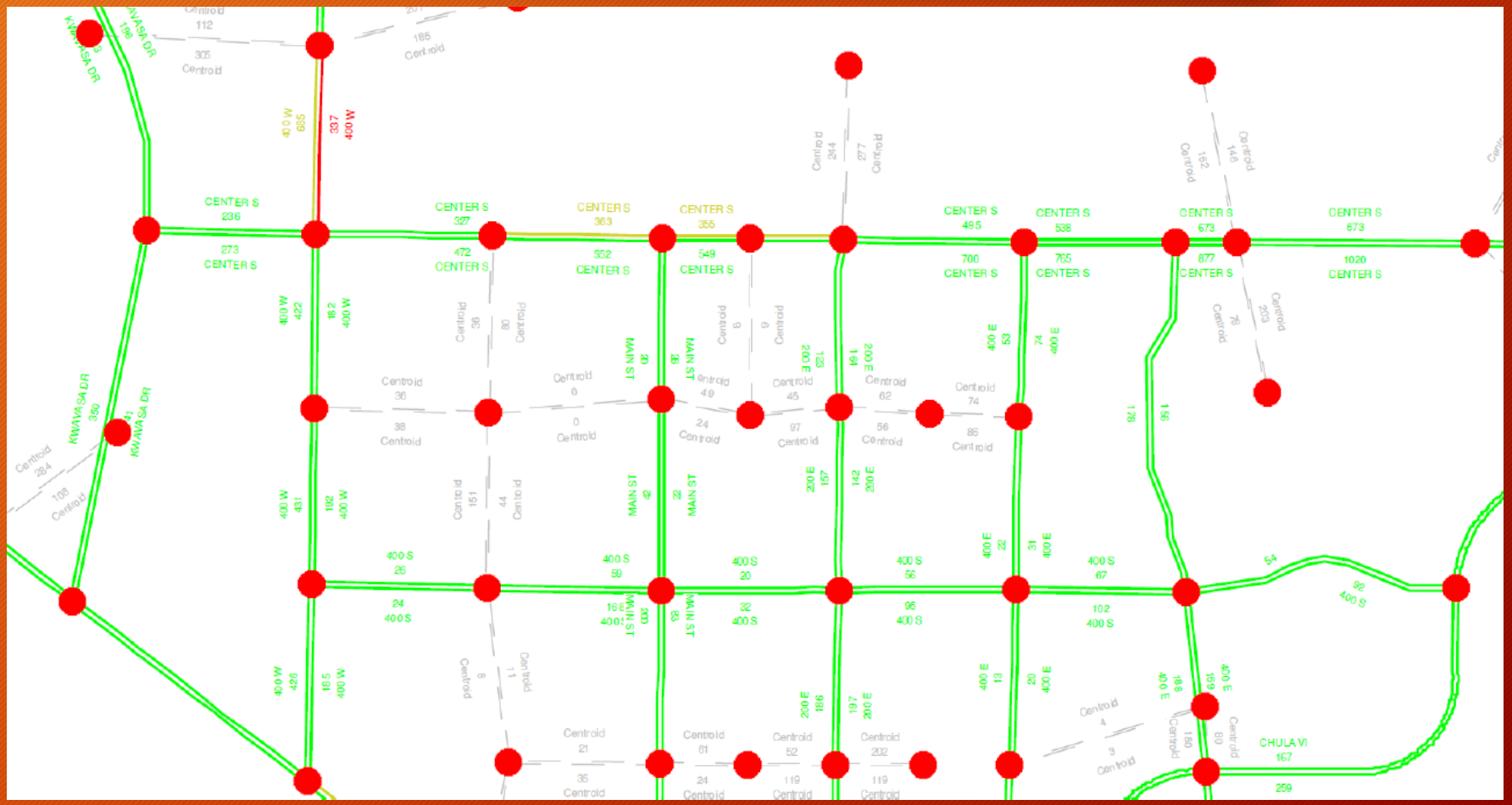


Accident Data Update





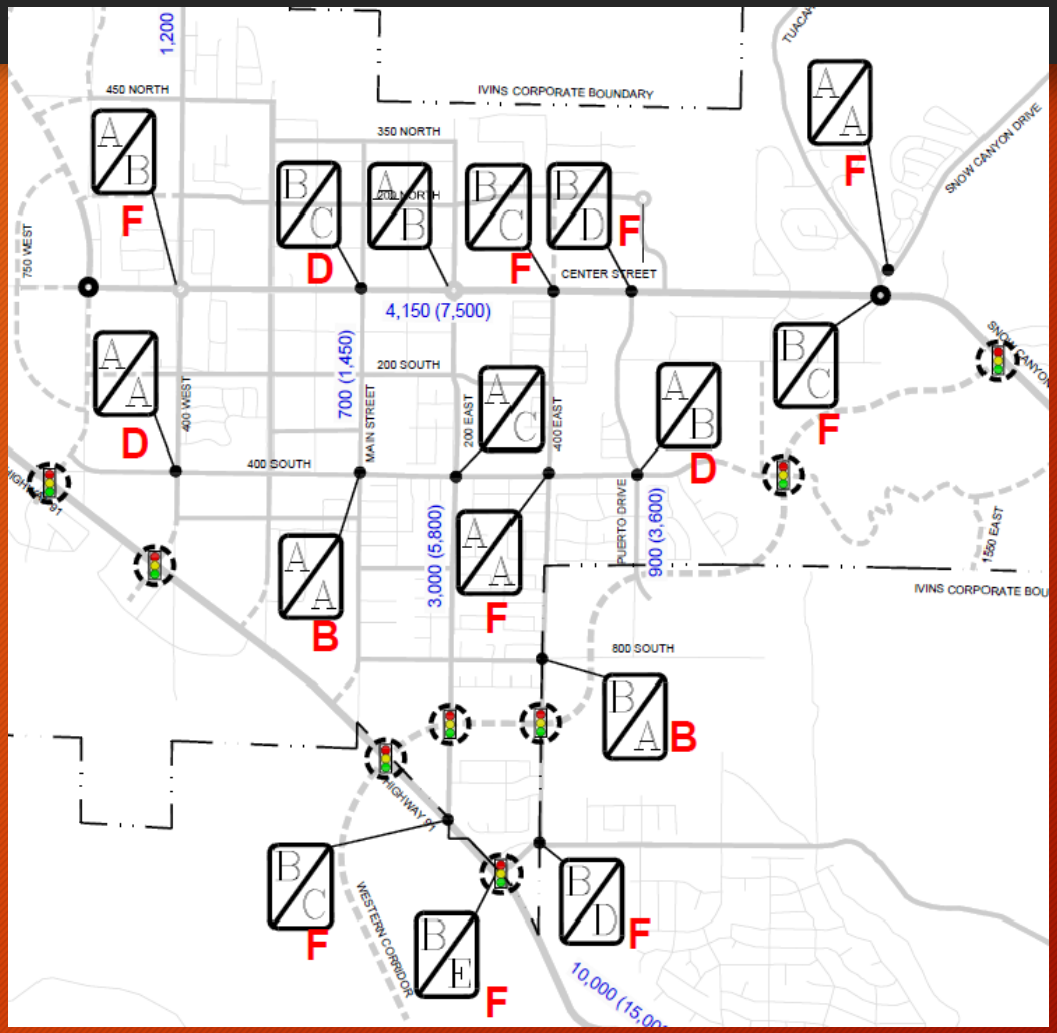
Update Travel Demand Model

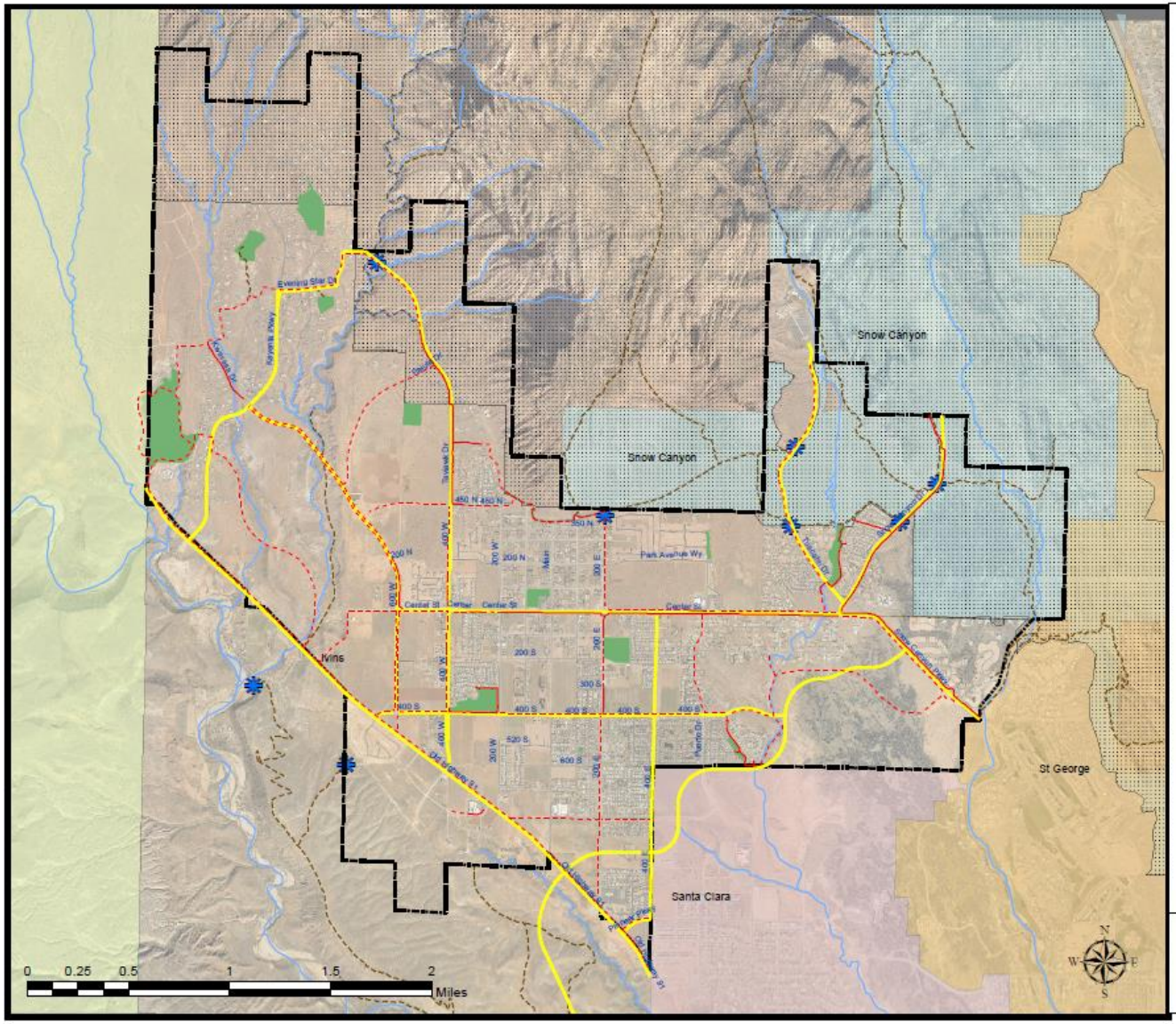


Past Amendments/Figure Updates

- #1 2008: Historic Township Exemptions
- #2 2011: Roundabout Rule
- #3 2013: Adoption of 24’ Shared Acces Drive (Discovery Ph2)
- #4 2013: Elimination of Roundabout at 200 E and 400 S
- #5 2014: Changes to road network near 600 West, adoption of Kwavasa Drive Cross-sections

Figure 7: Intersection Level of Service





Ivins City Transportation Master Plan

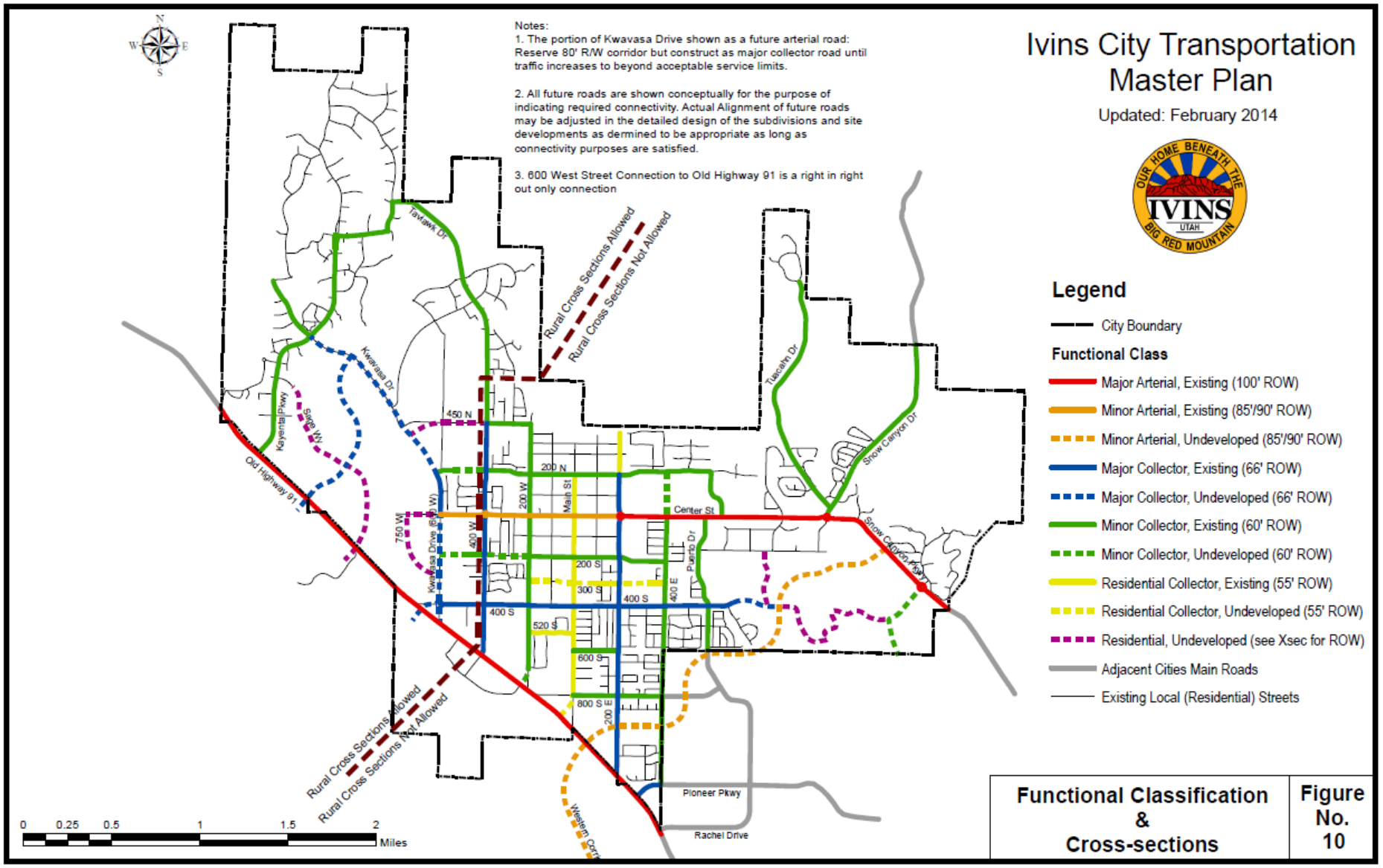
Updated: February 2014

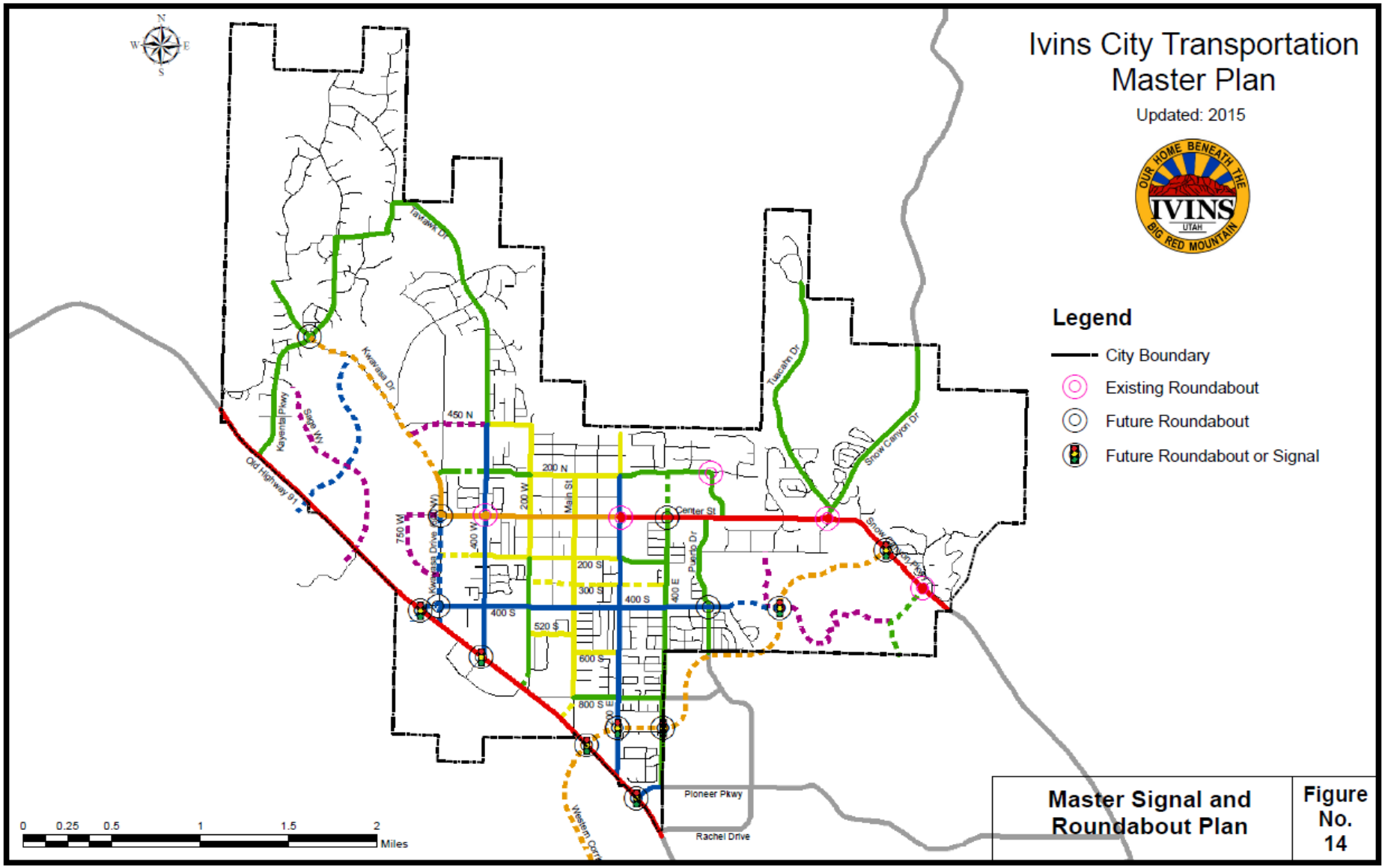
Legend

- Existing Bike Trails
- Proposed Bike Trails
- Proposed Bike Lanes
- City Boundary
- Trailheads
- Trails, Unimproved
- Municipal Parks
- Major Wash/River
- RedCliffsDesertReserve
- City of St George
- City of Santa Clara
- Snow Canyon State Park
- Shivwits Reservation
- Streets

Proposed Bike Lanes & Trails

Figure No. 9

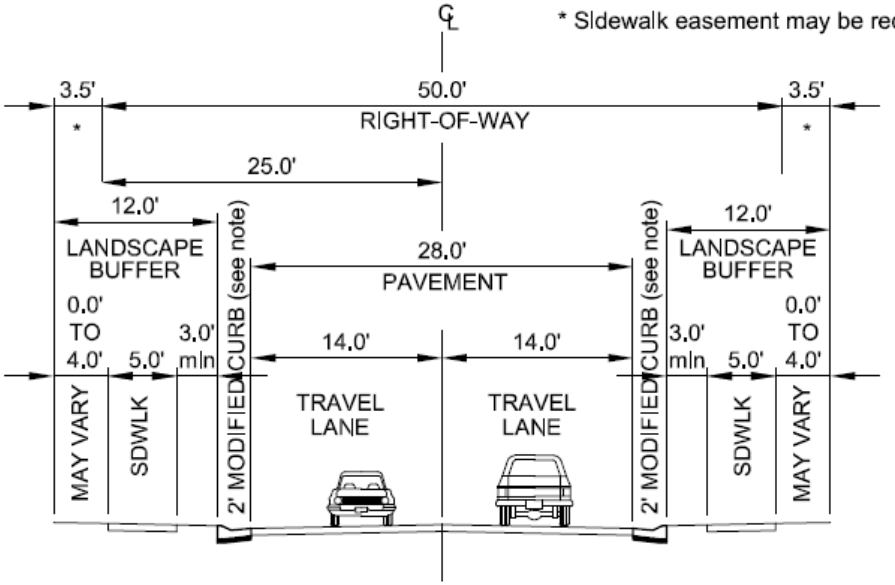

Notes:
1. The portion of Kwavasa Drive shown as a future arterial road: Reserve 80' R/W corridor but construct as major collector road until traffic increases to beyond acceptable service limits.
2. All future roads are shown conceptually for the purpose of indicating required connectivity. Actual Alignment of future roads may be adjusted in the detailed design of the subdivisions and site developments as dermined to be appropriate as long as connectivity purposes are satisfied.
3. 600 West Street Connection to Old Highway 91 is a right in right out only connection
Ivins City Transportation Master Plan
Updated: February 2014
OUR HOME BENEATH THE BIG RED MOUNTAIN
IVINS
UTAH
Legend
City Boundary
Functional Class
Major Arterial, Existing (100' ROW)
Minor Arterial, Existing (85'/90' ROW)
Minor Arterial, Undeveloped (85'/90' ROW)
Major Collector, Existing (66' ROW)
Major Collector, Undeveloped (66' ROW)
Minor Collector, Existing (60' ROW)
Minor Collector, Undeveloped (60' ROW)
Residential Collector, Existing (55' ROW)
Residential Collector, Undeveloped (55' ROW)
Residential, Undeveloped (see Xsec for ROW)
Adjacent Cities Main Roads
Existing Local (Residential) Streets
Rural Cross Sections Allowed
Rural Cross Sections Not Allowed
Tavaputs Dr
Kwavasa Dr
Kayenta Pkwy
Sage Wy
Old Highway 91
450 N
200 N
200 W
Main St
Center St
750 W
600 W
400 W
200 S
300 S
400 S
520 S
600 S
800 S
400 E
200 E
Puerto Dr
Tuscahn Dr
Snow Canyon Dr
Snow Canyon Pkwy
Pioneer Pkwy
Rachel Drive
Western Corridor
0 0.25 0.5 1 1.5 2 Miles
Functional Classification & Cross-sections
Figure No. 10


Ivins City Transportation Master Plan
Updated: 2015
OUR HOME BENEATH THE BIG RED MOUNTAIN
IVINS
UTAH
Legend
City Boundary
Existing Roundabout
Future Roundabout
Future Roundabout or Signal
Master Signal and Roundabout Plan
Figure No. 14
0 0.25 0.5 1 1.5 2 Miles
N
W
E
S
Tavaputs Dr
Kwaiasa Dr
Kayenta Pkwy
Sage Wy
Old Highway 91
450 N
200 N
Main St
Center St
Tuscahn Dr
Snow Canyon Dr
Pioneer Pkwy
Rachel Drive
Western Corridor
750 W
400 W
200 W
200 S
300 S
400 S
520 S
600 S
800 S
400 E
Puerto Dr

NOTE

1. Meandering sidewalk recommended where possible. Meander sidewalk through landscape buffer area.
2. Sidewalk may undulate but must meet clear zone requirements.
3. The City may require that the 2' modified curb be substituted by a 2.5' high back curb when
   - road is curvilinear and grade has portions steeper than 2 percent,
   - road is recieving water from an intersecting road or other drainage feature that has an apparent risk of storm water jumping the curb due to high velocities, or
   - a substantive drainage benefit is determined per approved drainage studies.

* Sidewalk easement may be required for meandering sidewalks.

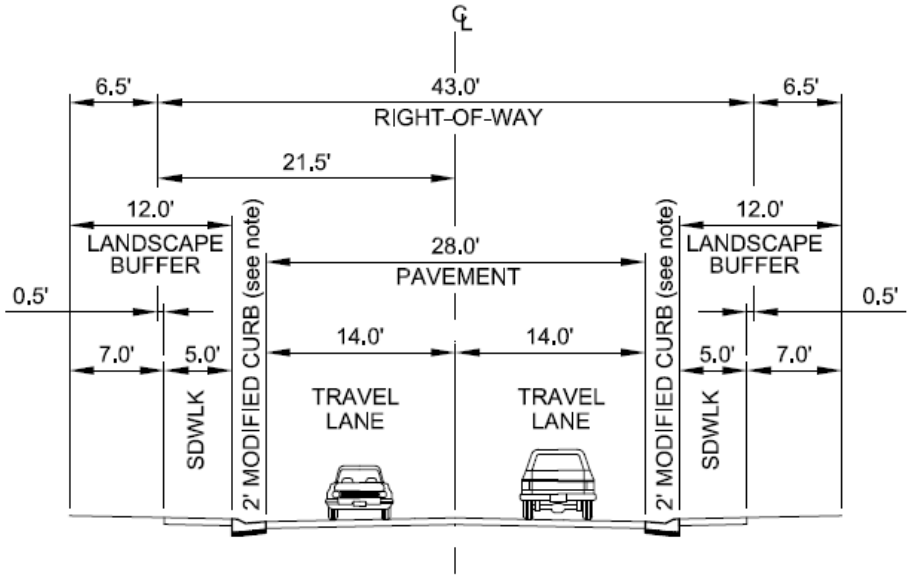


RESIDENTIAL STANDARD 50'

SCALE NONE DATE Sept. 10, 2008	HORROCKS ENGINEERS	285 WEST TABERNACLE SUITE 300 ST. GEORGE, UT 84770 (425) 986-7888	OUR HOME BENEATH THE RED ROCK MOUNTAIN IVINS UTAH	Ivins City RESIDENTIAL STANDARD 50'	CROSS SECTION NO. 1.1

NOTE

1. The City may require that the 2' modified curb be substituted by a 2.5' high back curb when
   - road is curvilinear and grade has portions steeper than 2 percent,
   - road is recieving water from an intersecting road or other drainage feature that has an apparent risk of storm water jumping the curb due to high velocities, or
   - a substantive drainage benefit is determined per approved drainage studies.
2. Where a 2.5' high back curb is required, the sidewalk may be reduced to 4.5' width.



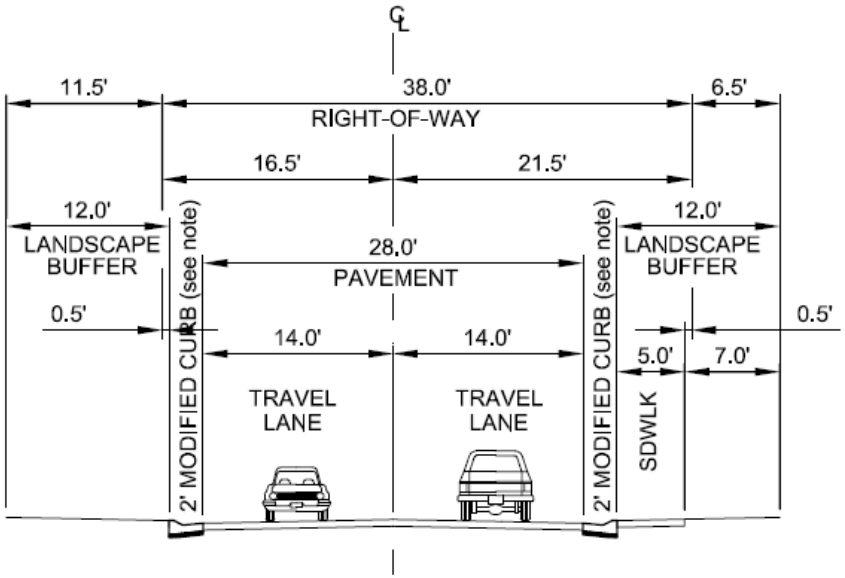
RESIDENTIAL ALTERNATIVE 43'

SCALE: NONE DATE: Sept, 10, 2008	HORROCKS ENGINEERS	265 WEST TABERNACLE SUITE 300 ST. GEORGE, UT 84770 (425) 986-7888	IVINS	Ivins City RESIDENTIAL ALTERNATIVE 43'	CROSS SECTION NO. 1.2

NOTE

1. The City may require that the 2' modified curb be substituted by a 2.5' high back curb when
   - road is curvilinear and grade has portions steeper than 2 percent,
   - road is recieving water from an intersecting road or other drainage feature that has an apparent risk of storm water jumping the curb due to high velocities, or
   - a substantive drainage benefit is determined per approved drainage studies.

2. Where a 2.5' high back curb is required, the sidewalk may be reduced to 4.5' width.

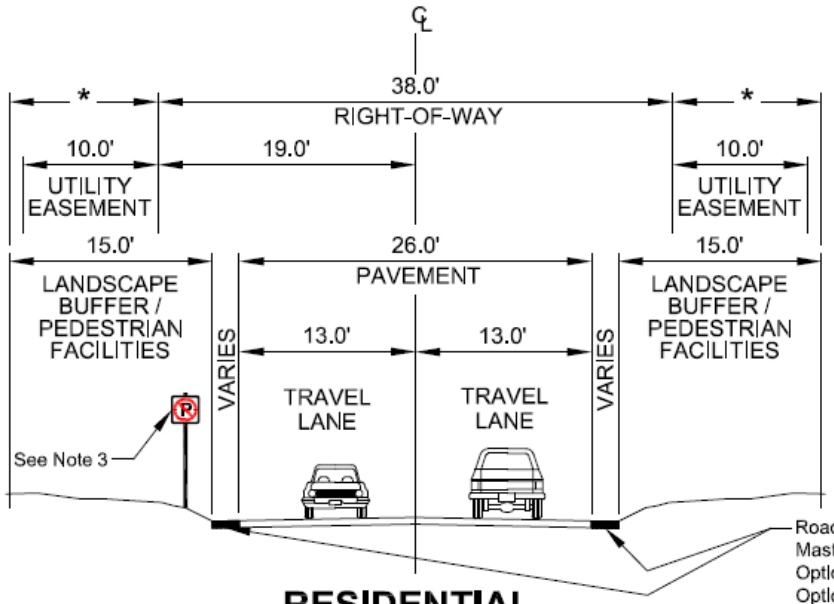


RESIDENTIAL ALTERNATIVE 38'

SCALE: NONE DATE: Sept, 10, 2008	HORROCKS ENGINEERS	285 WEST TABERNACLE SUITE 300 ST, GEORGE, UT 84770 (425) 986-7888	OUR HOME BENEATH THE BIG RED MOUNTAIN IVINS UTAH	Ivins City RESIDENTIAL ALTERNATIVE 38'	CROSS SECTION NO. 1.3

NOTE

1. Pedestrian facilities required on rural streets per the Transportation Master Plan Chapter 3. Sidewalk/trail shall be located within landscape buffer area, meandering where possible.
2. Residential driveways shall be constructed to keep drainage within the roadway or natural drainage to prevent flooding of private property.
3. When driveable surface width (asphalt + shoulders) is 32 feet or less, "No Parking" signs shall be installed on one side of the road per adopted fire code. Driveable surface shall not be less than 29 feet.
4. Pedestrian facilities are not required when traffic studies show a road has a volume of less than 200 vehicles per day. Otherwise, an 8' wide asphalt path on one side, or a 5' concrete sidewalk on both sides shall be installed.



* Sidewalk / Trail easement, if required. Width varies per Road Side Drainage

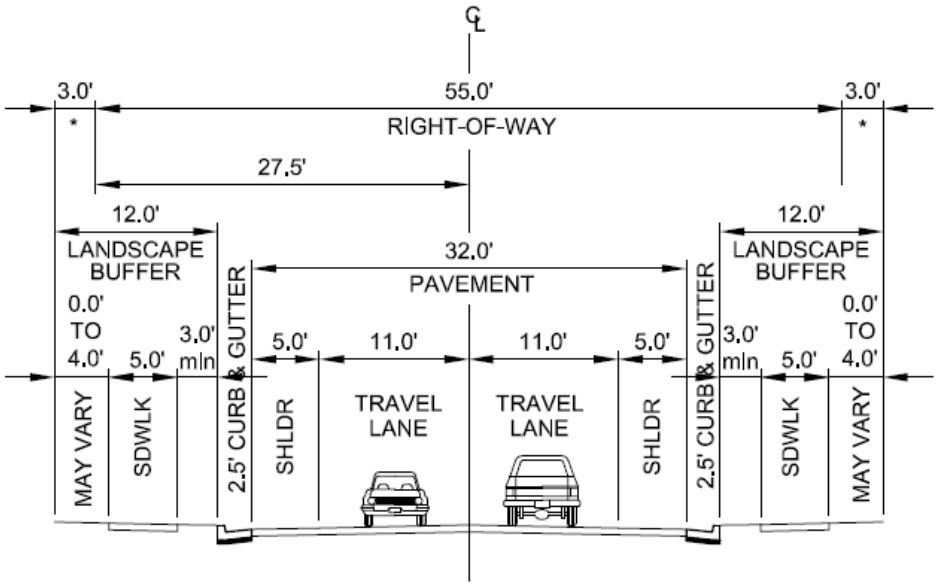
RESIDENTIAL PRIVATE - RURAL

SCALE NONE DATE Dec, 22, 2008	HORROCKS ENGINEERS	285 WEST TABERNACLE SUITE 300 ST. GEORGE, UT 84770 (425) 986-7888	CLUB HOME BENEATH THE BIG RED MOUNTAIN IVINS UTAH	Ivins City RESIDENTIAL PRIVATE RURAL	CROSS SECTION NO. 2

NOTE

1. Meandering sidewalk recommended where possible. Meander sidewalk through landscape buffer area.
2. Sidewalk may undulate but must meet clear zone requirements.

* Sidewalk easement may be required for meandering sidewalks.



RESIDENTIAL COLLECTOR

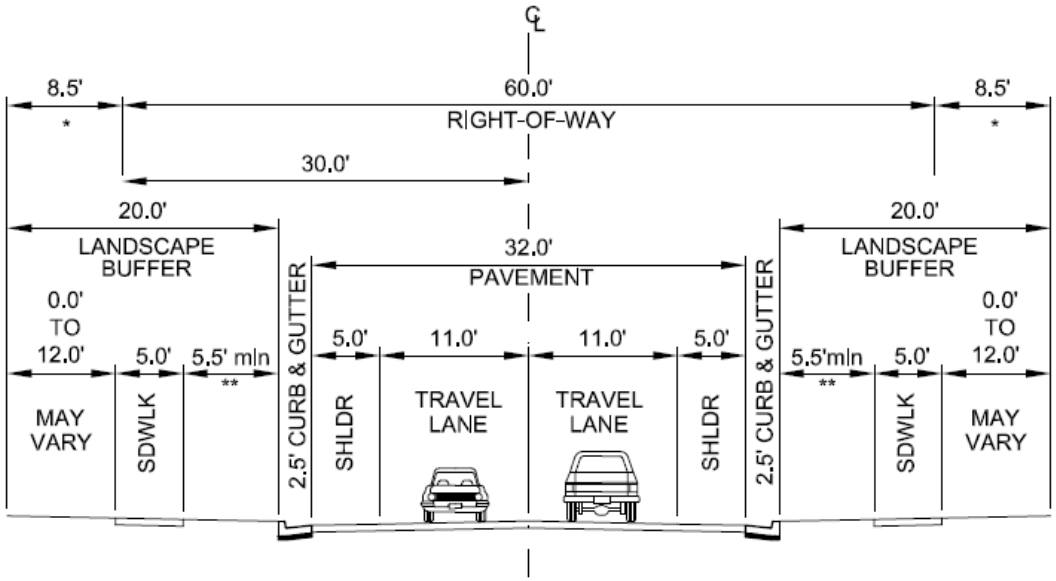
SCALE NONE DATE Sept. 10, 2008	HORROCKS ENGINEERS	285 WEST TABERNACLE SUITE 300 ST. GEORGE, UT 84770 (425) 986-7888	OUR HOME BENEATH THE RED MOUNTAIN IVINS UTAH	Ivins City RESIDENTIAL COLLECTOR	CROSS SECTION NO. 3

NOTE

1. Meandering sidewalk recommended where possible. Meander sidewalk through landscape buffer area.
2. Sidewalk may undulate but must meet clear zone requirements.
3. 5' Shoulder may be striped for a bicycle lane where indicated.

* Sidewalk easement may be required for meandering sidewalks.

** For meandering sidewalks, parkstrip width will vary with a required minimum width at closest point to be 3.0'.

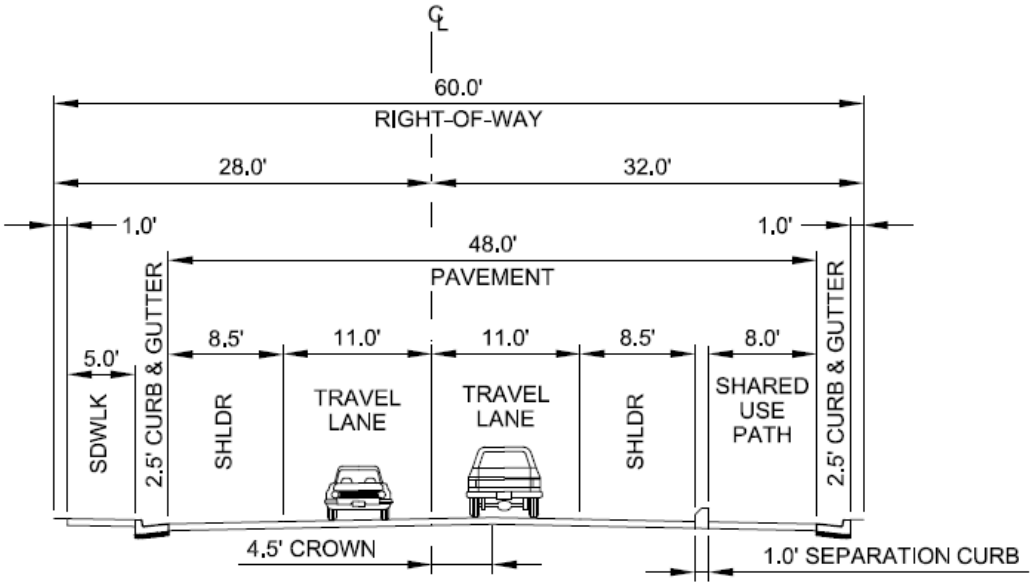


MINOR COLLECTOR

SCALE: NONE DATE: Sept. 10, 2008	HORROCKS ENGINEERS	286 WEST TABERNACLE SUITE 300 ST. GEORGE, UT 84770 (425) 986-7888	OUR HOME BENEATH THE RED MOUNTAIN IVINS UTAH	Ivins City MINOR COLLECTOR	CROSS SECTION NO. 4

NOTE

1. 1' separation curb shall not be continuous through residential drive ways.



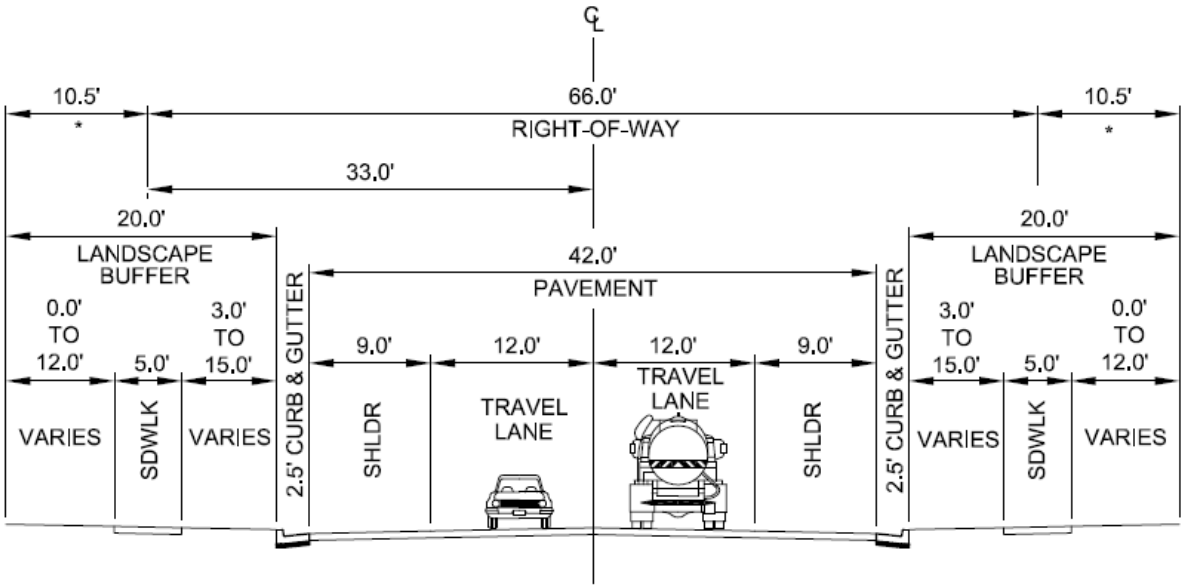
MINOR COLLECTOR - PUERTO DRIVE

SCALE: NONE DATE: Sept. 10, 2008	HORROCKS ENGINEERS	285 WEST TABERNACLE SUITE 300 ST. GEORGE, UT 84770 (425) 986-7888	IVINS	Ivins City MINOR COLLECTOR - PUERTO DRIVE	CROSS SECTION NO. 5

NOTE

1. Meandering sidewalk/trail required. Meander sidewalk through landscape buffer area.
2. Sidewalk may undulate but must meet clear zone requirements.
3. 9' shoulder with 2' of gutter pan may be separated into a 4' bike lane and 7' parking where indicated on the Ivins City Bike Lane Plan.

* Where homes or commercial sites do not front street, landscape buffer must be dedicated to City.



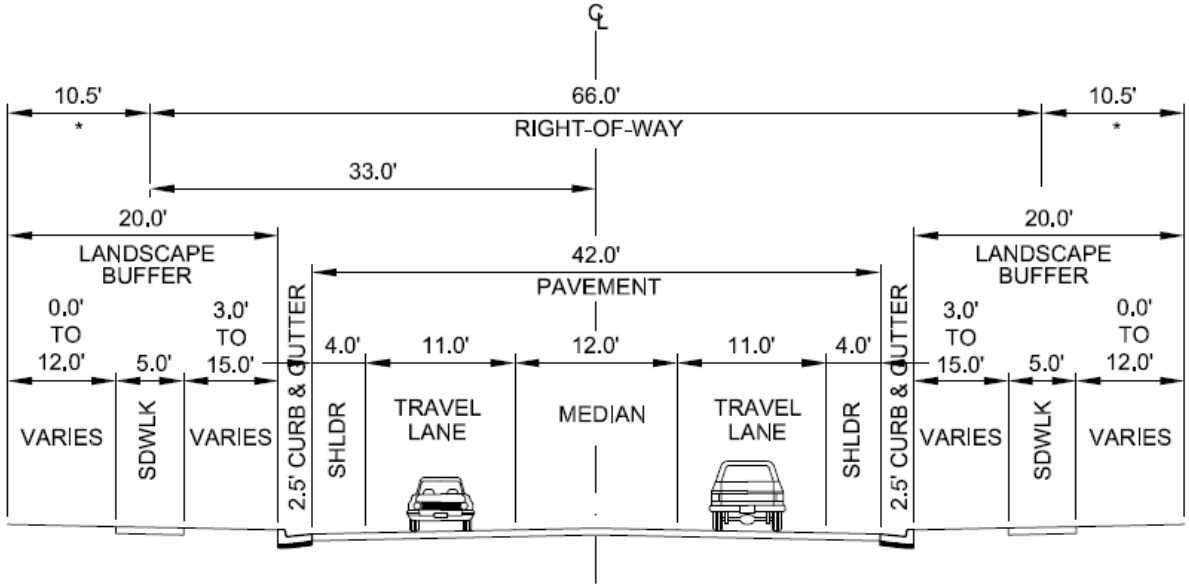
MAJOR COLLECTOR (STREET PARKING)

SCALE: NONE DATE: Sept. 10, 2008	HORROCKS ENGINEERS	285 WEST TABERNACLE SUITE 300 ST. GEORGE, UT 84770 (425) 986-7888	IVINS UTAH	Ivins City MAJOR COLLECTOR (STREET PARKING)	CROSS SECTION NO. 6

NOTE

1. Meandering sidewalk required. Meander sidewalk through landscape buffer area.
2. Sidewalk may undulate but must meet clear zone requirements.
3. 4' Shoulder may be striped for a bicycle lane where indicated.

* Where homes or commerical sites do not front street, landscape buffer must be dedicated to City.



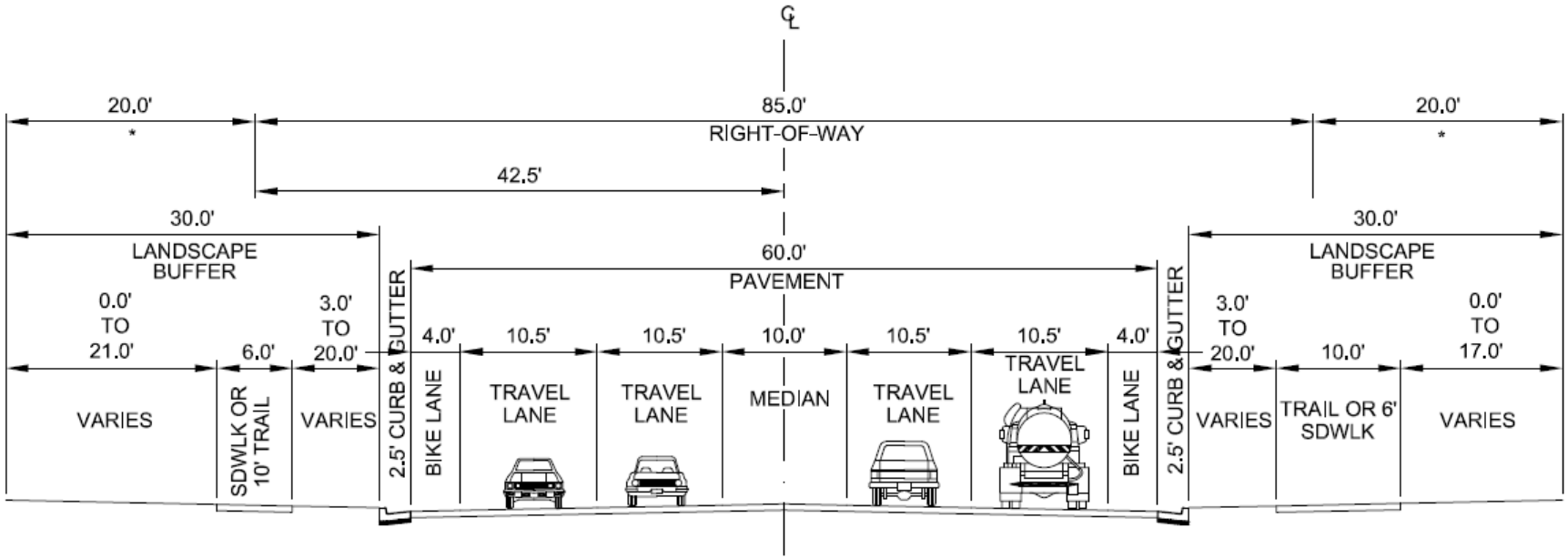
MAJOR COLLECTOR (CENTER LANE STRIPING)

SCALE: NONE DATE: Sept. 10, 2008	HORROCKS ENGINEERS	285 WEST TABERNACLE SUITE 300 ST. GEORGE, UT 84770 (425) 986-7888	IVINS	Ivins City MAJOR COLLECTOR (CENTER LANE STRIPING)	CROSS SECTION NO. 7

NOTE

1. Meandering sidewalk required. Meander sidewalk through landscape buffer area.
2. Sidewalk may undulate but must meet clear zone requirements.
3. See city Trail Map for trail locations.
4. Additional width will be required at intersections for a 12-foot right turn lane as approved by the City Engineer.

* Where homes or commericial sites do not front street, landscape buffer must be dedicated to City.



MINOR ARTERIAL - CENTER STREET

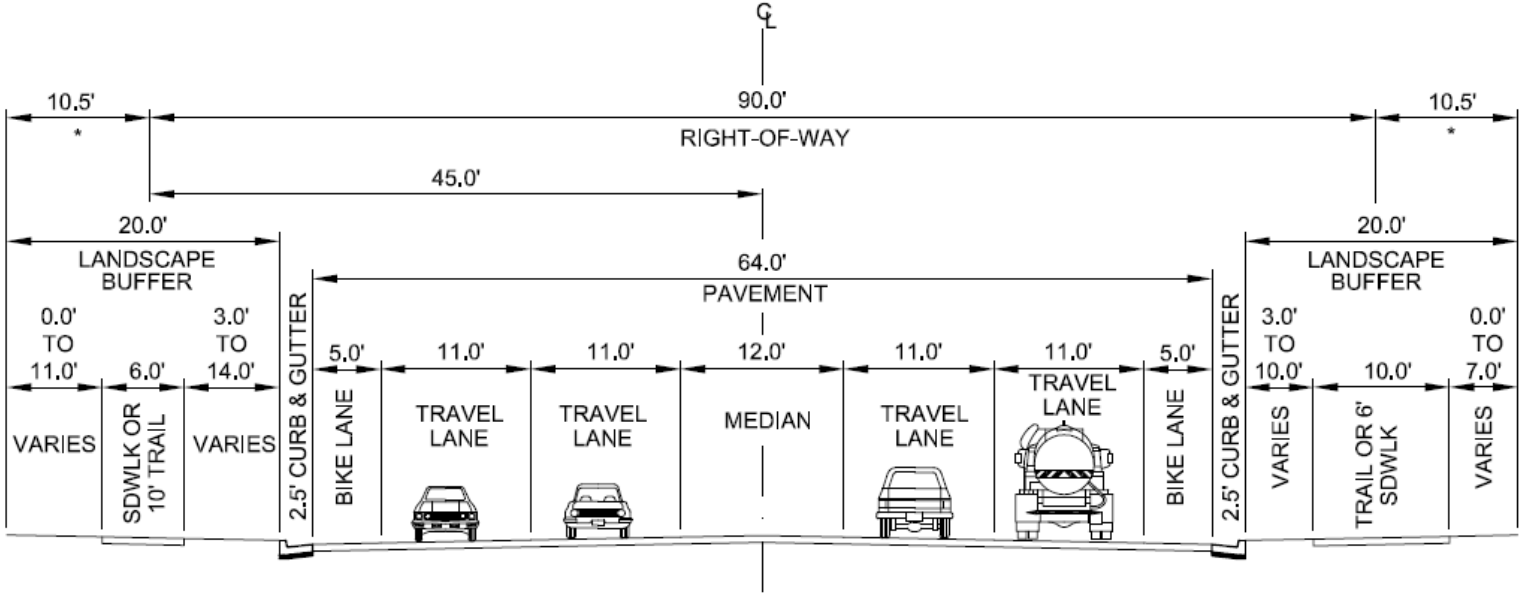
SCALE: NONE DATE: Sept, 10, 2008	HORROCKS ENGINEERS	285 WEST TABERNACLE SUITE 300 ST. GEORGE, UT 84770 (425) 986-7888	OUR HOME BENEATH THE RED MOUNTAIN IVINS UTAH	Ivins City MINOR ARTERIAL - CENTER STREET	CROSS SECTION NO. 8

NOTE

1. Meandering sidewalk required. Meander sidewalk through landscape buffer area.
2. Sidewalk may undulate but must meet clear zone requirements.
3. See city Trail Map for trail locations.

* Where homes or commercial sites do not front street, landscape buffer must be dedicated to City.

** Parkstrip minimum width may be 3.0' for a meandering sidewalk.



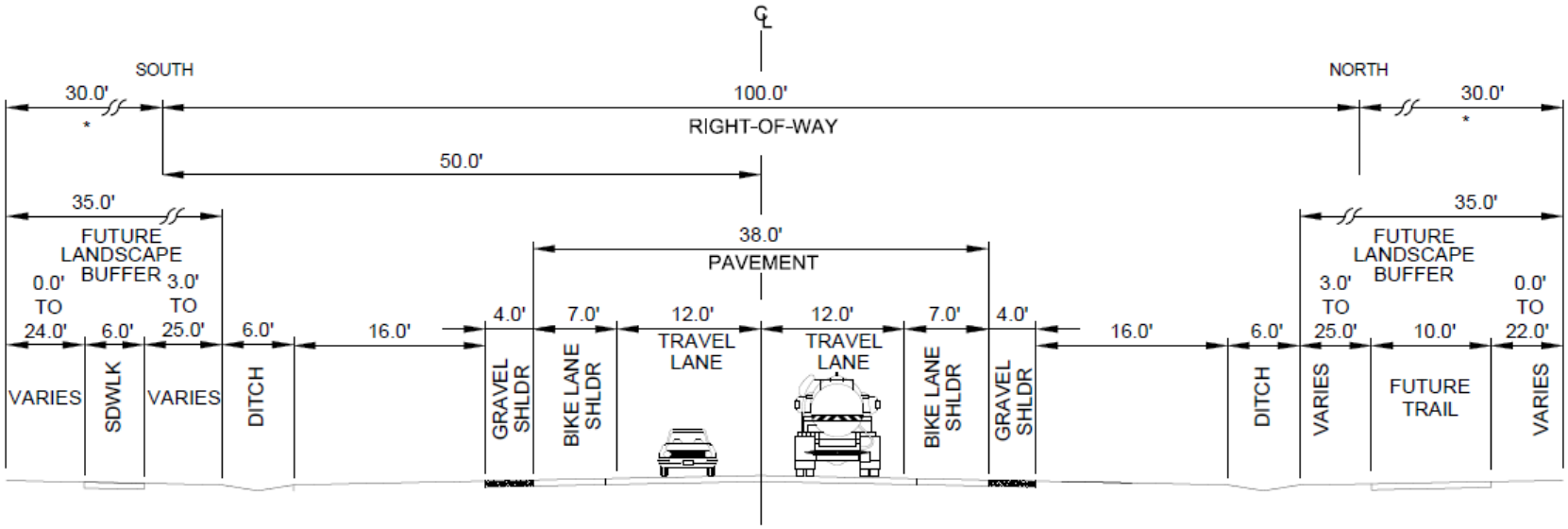
MINOR ARTERIAL - WESTERN CORRIDOR

SCALE					CROSS SECTION NO.
NONE	HORROCKS ENGINEERS	285 WEST TABERNACLE SUITE 300 ST. GEORGE, UT 84770 (425) 986-7888	Ivins City	MINOR ARTERIAL - WESTERN CORRIDOR	9
DATE Dec. 02, 2008					

NOTE

1. Meandering sidewalk/trail required. Meander sidewalk through landscape buffer area.
2. Sidewalk may undulate but must meet clear zone requirements.
3. See city Trail Map for trail locations.

* Where homes or commericial sites do not front street, landscape buffer must be dedicated to City.



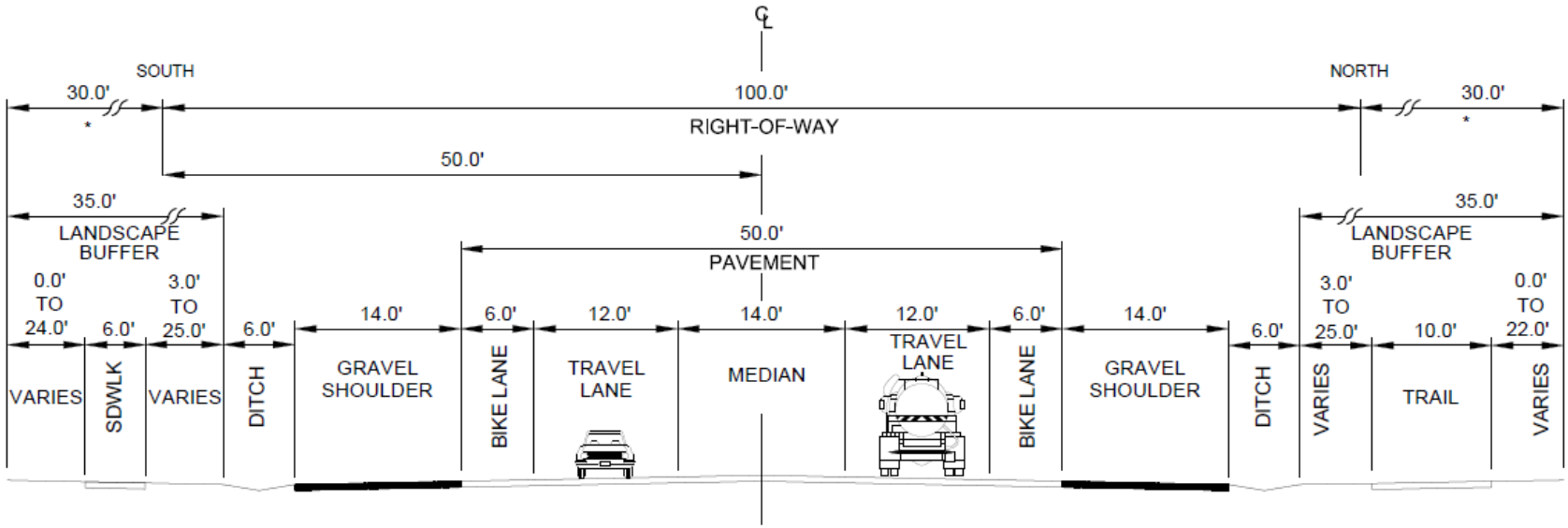
MAJOR ARTERIAL - OLD HIGHWAY 91 (2-LANE)

SCALE		CROSS SECTION NO.
NONE	Ivins City	10A
DATE	MAJOR ARTERIAL - OLD HIGHWAY 91 (2-LANE)	
Nov 23, 2015		

NOTE

1. Meandering sidewalk/trail required. Meander sidewalk through landscape buffer area.
2. Sidewalk may undulate but must meet clear zone requirements.
3. See city Trail Map for trail locations.

* Where homes or commericial sites do not front street, landscape buffer must be dedicated to City.



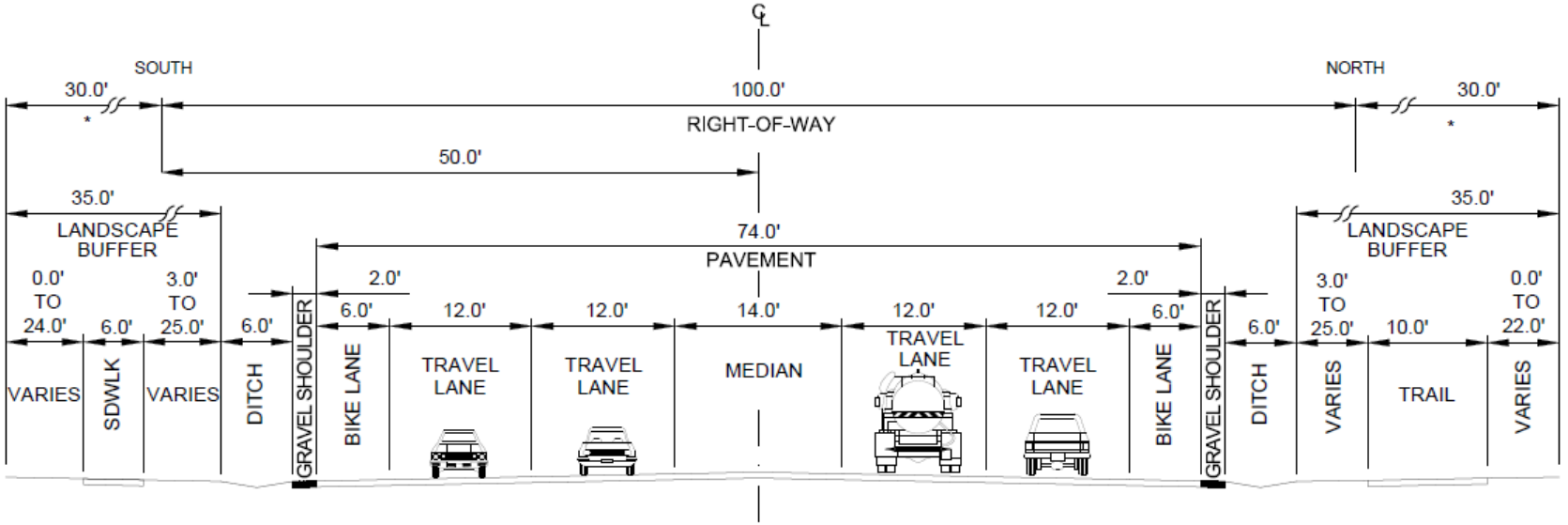
MAJOR ARTERIAL - OLD HIGHWAY 91 (3-LANE)

SCALE		Ivins City	CROSS SECTION NO.
NONE			10B
DATE		MAJOR ARTERIAL - OLD HIGHWAY 91 (3 LANE)	
Nov 23, 2015			

NOTE

1. Meandering sidewalk required. Meander sidewalk through landscape buffer area.
2. Sidewalk may undulate but must meet clear zone requirements.
3. See city Trail Map for trail locations.

* Where homes or commericial sites do not front street, landscape buffer must be dedicated to City.



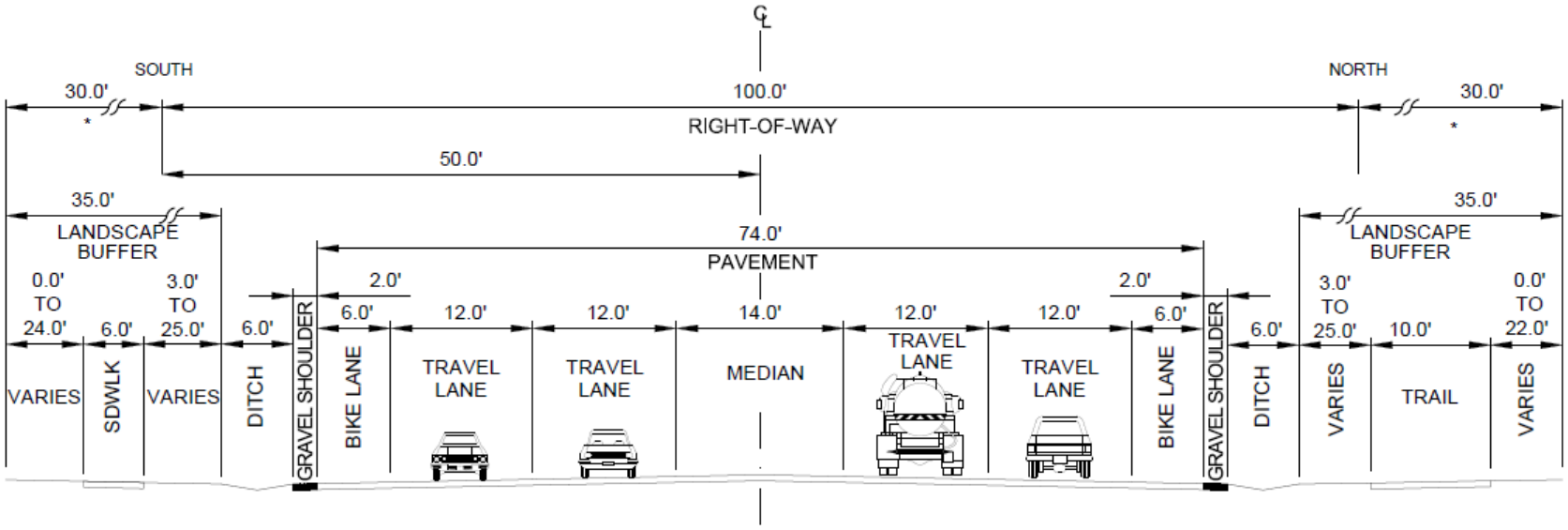
MAJOR ARTERIAL - OLD HIGHWAY 91 (5-LANE)

SCALE		Ivins City	CROSS SECTION NO.
NONE			11
DATE		MAJOR ARTERIAL - OLD HIGHWAY 91 (5-LANE)	
Nov 23, 2015			

NOTE

1. Meandering sidewalk required. Meander sidewalk through landscape buffer area.
2. Sidewalk may undulate but must meet clear zone requirements.
3. See city Trail Map for trail locations.

* Where homes or commericial sites do not front street, landscape buffer must be dedicated to City.



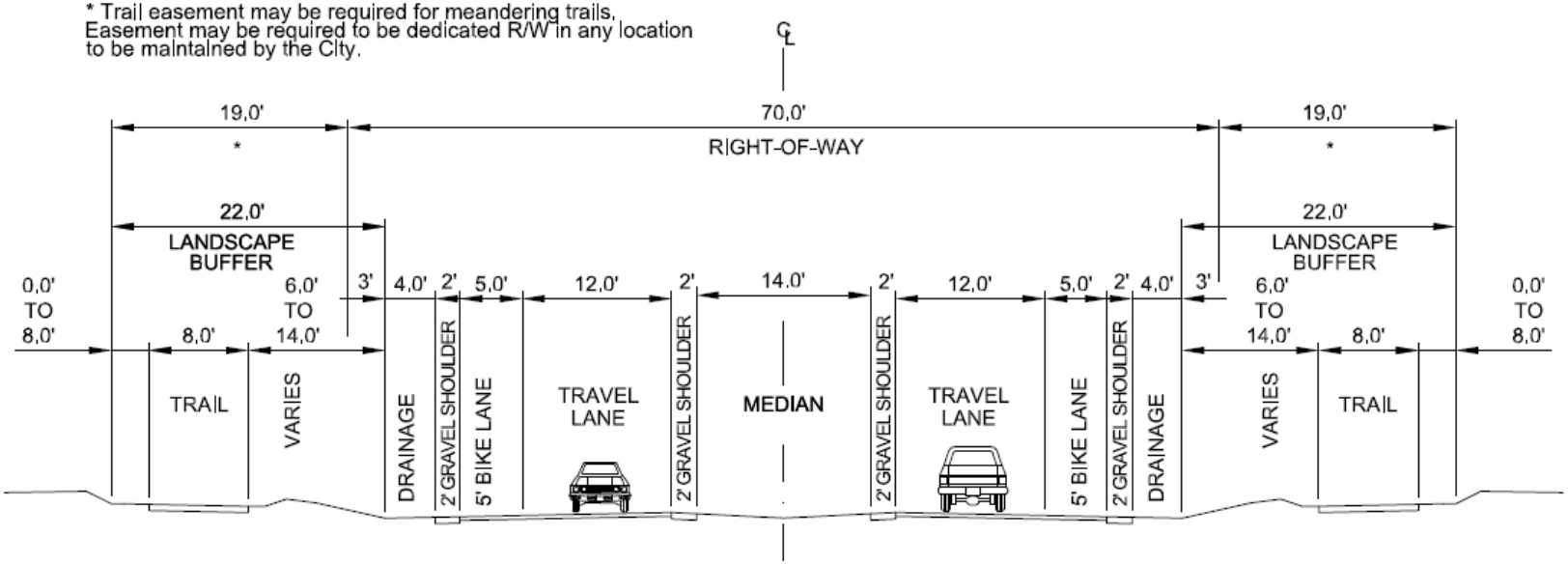
MAJOR ARTERIAL - OLD HIGHWAY 91 (5-LANE)

SCALE		CROSS SECTION NO.
NONE	Ivins City	11
DATE	MAJOR ARTERIAL - OLD HIGHWAY 91 (5-LANE)	
Nov 23, 2015		

NOTE

1. Trails and sidewalks may undulate but must meet clear zone requirements.
2. See city Trail Map for trail locations.
3. Where possible meander trail through landscape buffer area.
4. A concrete curb and gutter may be substituted at the outside edge of pavement for roadside drainage and may be required if specified by a drainage study.
5. The City may also require curb and gutter in the rural zone on a case by case basis in areas of commercial, industrial or medium- and high-density residential or as necessary to provide a reasonable and consistent transition from areas with curb and gutter to areas without.

* Trail easement may be required for meandering trails. Easement may be required to be dedicated R/W in any location to be maintained by the City.



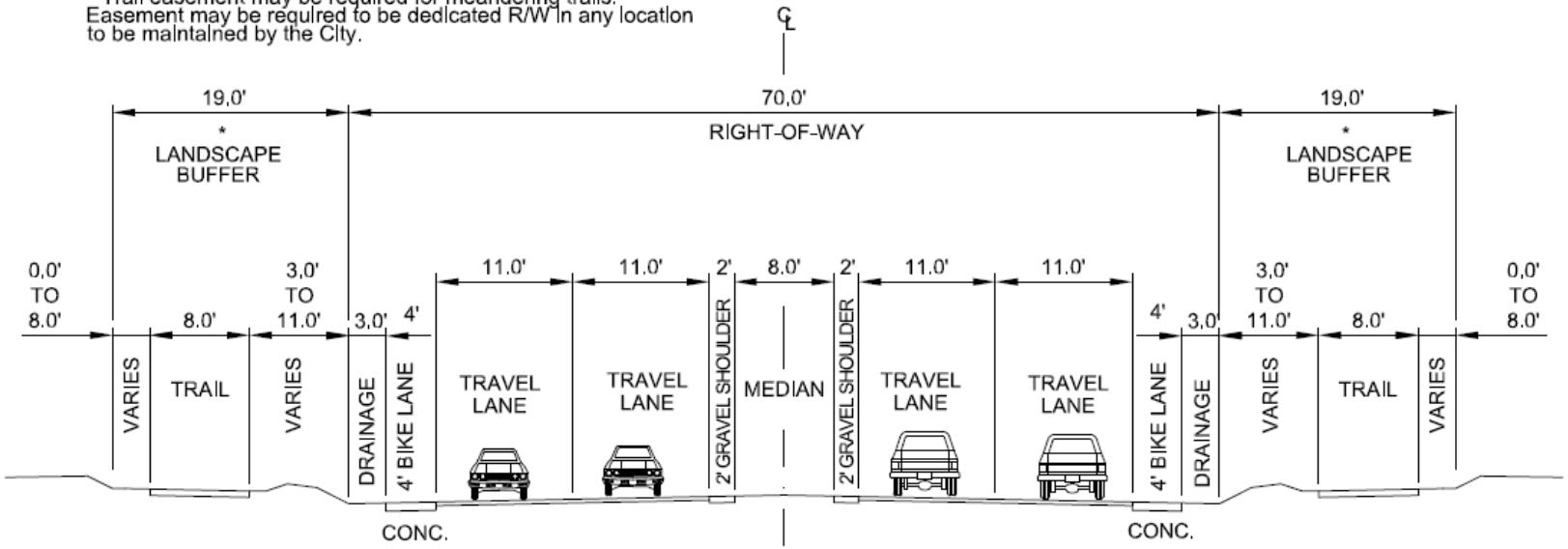
MAJOR COLLECTOR - LANDSCAPED MEDIAN IN RURAL ZONE

SCALE			CROSS SECTION NO.
NONE		Ivins City	12A
DATE		MAJOR COLLECTOR - RURAL	
Dec 12, 2013			

NOTE

1. Trails and sidewalks may undulate but must meet clear zone requirements.
2. See city Trail Map for trail locations.
3. Where possible meander trail through landscape buffer area.
4. A concrete curb and gutter may be substituted at the outside edge of pavement for roadside drainage and may be required if specified by a drainage study.
5. The City may also require curb and gutter in the rural zone on a case by case basis in areas of commercial, industrial or medium- and high-density residential or as necessary to provide a reasonable and consistent transition from areas with curb and gutter to areas without.

* Trail easement may be required for meandering trails. Easement may be required to be dedicated R/W in any location to be maintained by the City.



MINOR ARTERIAL - LANDSCAPED MEDIAN IN RURAL ZONE

SCALE			CROSS SECTION NO.
NONE		Irvine City	12B
DATE		MINOR ARTERIAL - RURAL	
Dec 12, 2013			

0 to 5-Year Transportation Improvement Plan (TIP)

- Center Street Streetscape Improvements – 200 East to Snow Canyon Drive – Install landscape medians - $640,000
- Puerto Drive – Install A-Curb to delineate a multiuse trail - $180,000
- Old Highway 91 – 200 East to Shivwits – widen Road to improve safety - $1.6 M, anticipate 70% funding from grants
- Old Highway 91 – 200 East to Shivwits – widen to 3 lanes, design only - $500,000, anticipate 70% funding from grants.
- 400 East – Center St to 200 North – new construction - $350,000 for design and construction.
- Other Signals and Roundabouts - $800,000
- Safety, Gap Fill or Streetscape - $300,000
- Streetlight Replacement Program - $300,000

5 to 10-Year Transportation Improvement Plan (TIP)

- Western Corridor – 200 East to 400 East – $1.2 M
- Old Highway 91 – 200 East to Shivwits – Widen to 3 lanes – construction - $5,900,000, anticipate 70% funding from grants.
- Signals and Roundabouts - $1 M
- Safety, Gap Fill or Streetscape - $500,000
- Streetlight Replacement Program - $730,000

10 to 20-Year Transportation Improvement Plan (TIP)

- Old Highway 91 – Pioneer Parkway to Shivwits – 5 lanes - $2.6 M, anticipate 70% funding from grants.
- Western Corridor, widen to 5 lanes, from Old Highway 91 to Snow Canyon Parkway (except thru Santa Clara) – $1.4 M
- Western Corridor, from Old Hwy 91 to I-15, Local Match, $2.4 M
- Kwavasa Drive, widen to 5 lanes - $1 M
- 200 East Streetscape, moved from 5 year plan, $1.7M
- 400 South Streetscape, moved from 10 year plan, $825,000
- Safety, Gap Fill or Streetscape - $1M