Dixie Metropolitan Planning Organization

2007-2030 Regional Transportation Plan

For the St. George Urbanized Area

Prepared by:

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UNIFIED TRANSPORTATION PLANNING

DIXIE METROPOLITAN PLANNING ORGANIZATION

TABLE OF CONTENTS

1 OVERVIEW 1
1.1 Plan Abstract 1
Table 1 – Project Funding By Phase 2
MPO Boundary Map 3
1.2 Summary of Past Planning Efforts 4
1.3 Summary of the Dixie Regional Transportation Planning Process 4
1.4 Planning Organization & Committees 4
1.5 Overview of Federal Planning Regulations 5
1.6 Area Characteristics 6
Table 2 – Projected Demographics 7
Table 3 - Washington County's Largest Employers 8
Table 4 – Commuting Patterns 9
1.7 Transportation & Land Use Relationship 9
Generalized Land Use Map 10
Generalized Land Use Table 11
1.8 Regionally Significant Facilities 12
1.9 Summary of Transportation Modeling & Analysis Tools 12
1.10 Summary of Public Involvement Process 12
1.11 Joint Policy Advisory Committee 13

2 VISIONING 13
2.1 Overview of Regional Visioning Process 13
2.2 Regional Growth Issues 14
Table 5 - Washington County Build-out Study Scenario Comparison 16
Table 6 - GOPB/County Build-out Study Comparison 16
2.3 Update of Regional Vision 17
2.4 Transportation Coding & Modeling 17

3 NEEDS ASSESSMENT 17
3.1 Public Participation 17
3.2 General Needs Overview 18
3.3 Highway System Review 19
3.4 Transit System Review 20
Table 7 – SunTran Ridership 20
Sun Tran Route Map 21
3.5 Identification of Primary Corridors 22
Table 8 – High Priority Corridors 22
3.6 Other Transportation Modes Needs 23
3.7 System Management Review 26
3.8 Safety & Homeland Security 26
Accident Data Map 28

4 ALTERNATIVE DEVELOPMENT 29
4.1 Functional Classification System 29
4.2 Identification of Highway Improvement to Address Needs 29
Functional Classification Map 30
4.3 Identification of Transit Improvement to Address Needs 31
4.4 Identification of Pedestrian/Bicycle Improvements to Address Needs 31
4.5 Identification of Multi-Modal Alternatives 31

5 EVALUATION OF ALTERNATIVES 32
5.1 Traffic Demand Modeling of the Highway Network 32
5.2 Congestion Management 32
Chart 1 - Build v. No-build Network Travel Time 33
Table 9 - Daily Travel Times 'A' 34
Table 10 - Daily Travel Times 'B' 34
Chart 2 - Travel Time Results 'A' 34
Chart 3 - Travel Time Results 'B' 35
Table 11 - Cost Benefit Analysis 35
5.3 Safety/Accident Data 35
Table 12 – Accident Data 35
5.4 NEPA Principles 35

6 PROJECT SELECTION AND PHASING 36
6.1 Existing Plus Committed Projects 36
Table 13 – TIP Criteria 37
6.2 Highway Project Selection Criteria 37
6.3 Transit Project Selection Criteria 37
6.4 Human Services Transportation Coordination 37
6.5 Non-Motorized Project Selection Criteria 38
6.6 Illustrative Non-Funded Projects 38
6.7 Functional Road Classification System 38
6.8 Phasing of Transportation Facilities 38
Table 14 – Phasing Assumptions 39

7 FINANCIAL PLAN 39
7.1 Financial Tools Available 39
Table 15 – Financial Projections 40
7.2 Selection of Financial Options 41
7.3 Projected Transportation Revenues 41
Table 16 – Projected Transit Revenues 41
Table 17 – Projected Enhancement Revenues 41
7.4 Projected Transportation Expenditures 41

8 RECOMMENDED ALTERNATIVE 42
8.1 Overview of Transportation Recommendations 42
8.2 Recommended Highway Improvements 42
Projects & Phasing List 43
Projects & Phasing Map 44
8.3 Recommended Transit Improvements 45
8.4 Recommended Other Transportation Improvements 45
Table 18 – Proposed Trails Projects 46
Trails Project Map 47
8.5 Transportation System Improvements 48
Table 19 – Proposed ITS Projects 49
8.6 Possible Future Technologies 50

9 IMPACTS AND BENEFITS 50
9.1 Social Impacts and Benefits 50
9.2 Economic Impacts and Benefits 52
9.3 Public Health and Transportation 52
9.4 Elasticity of Gasoline Prices 52
9.5 Environmental Impacts 52
Table 20 - Federal Threatened and Endangered Species, State 54

9.6 NEPA Principles and Requirements 56
9.7 SAFETEA-LU Factors 56
9.8 Public Comments and Input on Final Draft Document 56

10 IMPLEMENTATION 57
10.1 Major Transportation Studies 57
Table 21 – Estimated 2030 Traffic Volumes along I-15 Corridor 58
10.2 Regional System Monitoring 60
10.3 Plan Refinement Studies 60
10.4 Future RTP Updates 61
10.5 Transportation Improvement Program 61
TIP 62
Transit TIP 63

APPENDICES 64
Appendix A – 2007-30 Regional Transportation Plan Resolution 65
Appendix B – 2008-11 Transportation Improvement Plan Resolution 66
Appendix C – Public Participation 67
Appendix D – Air Quality Protection Strategy 74

1 OVERVIEW

1.1 Plan Abstract

Purpose

The Dixie Metropolitan Planning Organization leadership and staff conduct the transportation planning process for the Census Bureaus' designated St. George Urbanized Area located in Washington County in Southwestern Utah. A major responsibility and product is the preparation of a long-range plan, which is updated every four years in cooperation with the Utah Department of Transportation, the other three MPOs in Utah, as well as local government partners located and affected by the process. Those entities are Washington County, and the cities of Ivins, Santa Clara, St. George, and Washington.

In anticipation of urbanized designation before or near year 2030, the cities of Hurricane, LaVerkin, and Toquerville are included in a 2030 planning boundary. The previously mentioned cities represent the current 2020 planning boundary. The following map shows the 2020 boundary with a yellow border and the expanded 2030 boundary in a blue border.

Process

The long-range plan to year 2030 is called The Dixie Regional Transportation Plan (DRTP) and will be updated every four years, so the next visit will be in 2011. The RTP is developed and updated with the help of partner staffs from each of the entities noted above and includes input from stakeholders, special interest groups, land use managers, resource agencies and the general public via the public involvement process. The public is provided opportunities to comment on the plan and process at annual events, open houses, and public comment periods and indirectly through steering committee and stakeholder teams established for corridor studies, and transportation improvement program outreach efforts.

Vision

Early visioning was undertaken by the MPO leadership team prior to the publication of the Dixie Interim 2020 Long Range Plan. Countywide visioning which began in 2006 and expected to take a couple of years to complete will provide information valuable for consideration for the development of the 2011 DRTP, four years from now.

Needs, Project Selection & Phasing, Estimated Funding and GAP

Technical knowledge of staff, political realities of policy leaders and decisions, and traffic demand modeling as a tool, are the key sources of needs and funding identification and prioritization of projects identified to meet those needs. Projects estimated to cost nearly 1.5 Billion Dollars to year 2030 are presented in this long range plan, and include transit, bicycle/pedestrian, as well as highways (arterials and collectors) representing capacity increases and new corridors anticipated to meet future growth. Highway needs during three distinct phases are summarized in Table 1 below:

Table 1 – Project Funding By Phase

Year	Need	Estimated Cost	Gap
2007-2015	$164,240,000	$150,000,000	$14,240,000
2016-2025	$711,125,000	$663,000,000	$48,125,000
2026-2030	$623,378,000	$597,000,000	$26,378,000

Financial Plan

Annual formula funding from the U.S. Department of Transportation to support Highway and Public Transit, State Funding, and local revenue baselines are used and inflated to obtain probable projections of funding reasonably considered available to meet the project costs identified. This process of linking dollars to projects financially constrains the plan. Unfunded needs, also shown in the plan, represent projects that funding is not identified, but the need may exist in any of the funded phases, as well as after year 2030.
Financial assumptions consistently used by UDOT and each MPO to derive availability of levels of dollars from any source may not come to be, so these revenues must be considered conservative at best.

Impacts and Benefits

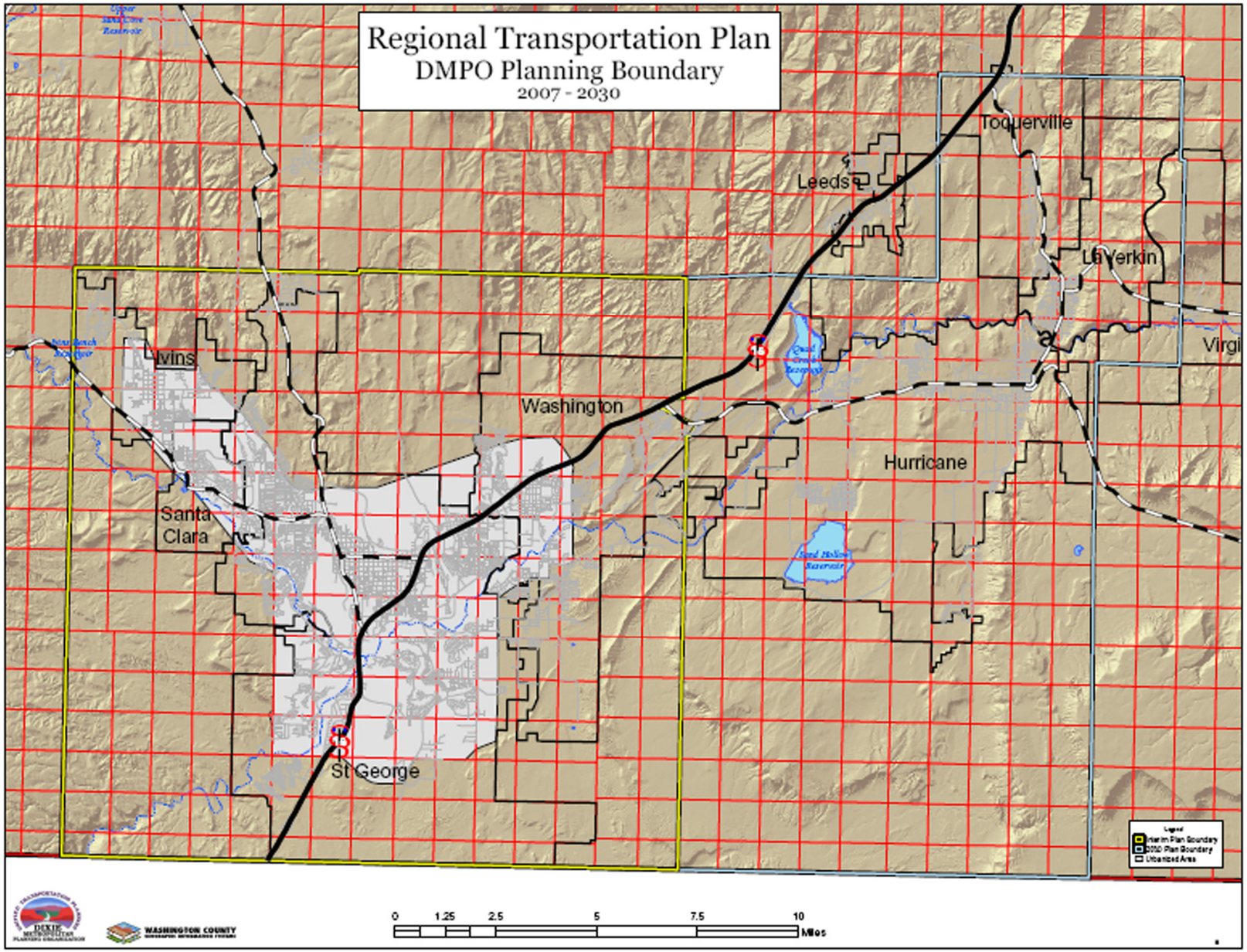
The overall responsibility of the Dixie MPO is identification of regionally significant transportation solutions to meet future growth anticipated, with the social and environmental sensitivity to avoid, minimize, or mitigate impacts wherever possible with the basic understanding of providing a safe, efficient an effective transportation system that the public is willing to afford. Broad regional social, environmental, and economic factors were identified, in this plan; however, their avoidance, minimization, and mitigation will be addressed in detail as project demand moves from a planning corridor concept to the environmental assessment stage mandated by the National Environmental Policy Act, prior to design engineering and eventual construction or capital purchase.

Implementation

Programs, plans, and projects of a regional nature are driven by regional anticipated trip generators, such as employment locations where people drive to work every day. Consequently, projects of a regional nature to meet future regional needs do not satisfy single community needs but do satisfy system wide needs, including the needs of cities that may contain the most employment centers.

Some of the projects identified in this long range plan are years away from environmental work or are even outside the horizon of this plan and unfunded, for example, the Great Northern Corridor. Although shown on the regional map as a future needed facility, based on St. George Cities Master Plan, no corridor preservation studies have been done for this future north corridor. In the future when the traffic growth and congestion drives a corridor study, and subsequent EIS, they would identify alternative corridor and alignment options respectively, including the ‘no- build’ alternative. When projects leave the plan and are in the funded phase with money tied to them, they appear in the Transportation Improvement Program (TIP), a four year funded program with the fifth year as ‘concept development’, which is the transition point a planning project goes through as it leaves the plan and before it goes onto the TIP.

MPO Boundary Map



1.2 Summary of Past Planning Efforts

In June of 2004, the Dixie Metropolitan Planning Organization (DMPO) completed an interim Long-range Plan with a 20-year planning horizon. The purpose was to:

1. Prepare a document that supports the Transportation Improvement Plan (TIP)
2. Present baseline information to be used in developing this 2030 Regional Transportation Plan (RTP)
3. Present by reference transit feasibility and short range transit plans completed

The current DMPO planning effort covers a time-period from 2005 to 2030 and establishes a boundary comprised of the Census defined UZA and areas adjacent to the UZA, which are anticipated to be urbanized during the thirty-year planning horizon (see Boundary Map in Appendix "B"). The DMPO planning area totals 408 square miles.

1.3 Summary of the Dixie Regional Transportation Planning Process

At the federal level, transportation planning rules and regulations provide guideposts to the conduct of the metropolitan planning process for areas designated 'urbanized' by the US Census Bureau. Also, multi-year transportation bills passed by Congress program dollars that come to urbanized areas to support planning, construction, and capitol investment to projects that are first identified in a long range plan, and then funded in a transportation improvement program, of which both plan and program are developed with public involvement.

For this 2030 Plan, UDOT, and the four Utah MPOs agreed to coordinate the processes, including the development for the first time what is called a Statewide Unified Plan which summarizes in executive format, the UDOT Small Urban and Rural Plan, and the four Utah MPO Plans which cover the Urbanized Areas within the state. The unified approach included the use of common transportation system functionality and definitions, visual consistency in mapping, consistency in financial assumptions, project cost analysis, project phasing and projections. Leadership teams from each of the entities met frequently over the past several years to guide and provide technical assistance to the process, including timing of public involvement activities, opportunities, and press release announcements of the required 30-day comment period and release of the Unified and stand alone MPO Plans. It is anticipated that this coordinated effort will move forward into the future as plans are updated or federal or state regulations are changed requiring adjustments to the statewide and metropolitan planning processes.

The State of Utah, through its transportation agency, UDOT, provides funding and technical support to the metropolitan planning process, including development of the long-range plan, TIP, and public involvement process and implementation. The Utah State Legislature also provides funding via ongoing law and periodic surplus distributions, usually managed by UDOT. Current law enables transportation funds at the state, local or regional level depending on language and jurisdictional action.

1.4 Planning Organization & Committees

The Dixie MPO:

1. The Dixie Transportation Planning Office (DTPO), located at the Five County Association of Governments (FCAOG)
2. A policy body, the Dixie Transportation Executive Council (DTEC), comprised of elected officials representing the cities of Ivins, St. George, Santa Clara, and Washington, the county of Washington, and the State Transportation Commissioner representing the southwest part of the state, and

3. The Dixie Transportation Advisory Committee (DTAC) comprised of public works officials of the entities noted above and the Cedar District Engineer, Utah Department of Transportation (UDOT), who will advise the executive council on regional transportation issues, programs, and projects.

The Utah Department of Transportation has been increasing its human and fiscal resources to assist the Dixie MPO and its partners. Planning and Project liaison with Region 4 staff in Richfield, and a project manager position located in Cedar City has helped meet planning and project workload demands during the past two years. The department is also looking to the future to bring a traffic engineer position to the area to assist with the expanding traffic control center.

The Dixie Bicycle & Pedestrian Committee

In the 1990's, a visionary group of citizens proposed a regional trail that would span from Zion National Park to Gunlock Reservoir. The trail was envisioned to encompass the Virgin River, the Santa Clara River, and Ash Creek as well as the communities of Springdale, Virgin, Rockville, LaVerkin, Hurricane, Washington, St. George, Santa Clara, Ivins, and the Shivwits Reservation, the Bureau of Land Management, and Washington County. A Three Rivers Trail Committee comprised of "trail coordinators" was formed to move this vision forward. Trail coordinators were federal, county, and local government employees; citizen volunteers; and elected local officials. The committee met monthly to encourage trail coordinators to establish trail routes, seek funding, and gain support for their section of trail. Many sections of the trail have since been completed such as the Virgin River Trail in the cities of St. George and Washington. However, many sections still require the on-going support of the committee.

The Dixie Bicycle and Pedestrian (DBAPC) committee has its origins in the Three Rivers Trail Committee. Having had some success in trail advocacy, the committee found itself being tapped to assist other organizations and agencies outside of its original Three Rivers Trail mission. With no other organization or agency representing bicycle and pedestrian issues, the committee became "the" resource. Membership grew to include a municipal engineer, an MPO transportation planner, local bicycle club officials, and a bicycle advocacy organization. As of 2005, many cities were calling upon committee members to participate in master planning for both transportation and recreation plans. State and local health agencies were also contacting members to find ways to strengthen the connections between personal health and bicycling and walking. Numerous, diverse partnerships were being formed to meet a multitude of bicycle and pedestrian issues.

Unprecedented growth, public demand for bicycle and pedestrian facilities, and a desire of residents to retain a certain "quality of life," has brought about some coordinated efforts between trails advocates and area officials. Increased efforts could bring about: Complete inclusion in planning and design processes; Increased funding; Increased facilities; Increased facility maintenance; Increased education; Increased partnerships; Increased coordination between public agencies; Increased encouragement.

1.5 Overview of Federal Planning Regulations

On August 10, 2005, the President of the United States signed the Safe, Accountable, Flexible, Efficient Transportation Equity Act—A Legacy for Users (SAFETEA-LU) into law. The $286.4 billion law reauthorizes federal surface transportation programs through 2009.

SAFETEA-LU makes a number of changes to the transportation planning process, including new timetables for updates to transportation improvement programs and long-range transportation plans, an increased focus on safety and security, and requirements for public participation.

The law includes important transit and environmental elements. It creates four new transit programs, including one that supports transit projects with federal New Starts shares below $75 million. It also makes some changes to provisions for air quality and the protection of historic and natural resources.

Common to SAFETEA-LU and previous Acts, is the consideration in the planning process of broad based requirements or issues. SAFETEA-LU identifies the following eight:

1. Supporting the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency.
2. Increasing the safety of the transportation system for motorized and non-motorized users.
3. Increasing the security of the transportation system for motorized and non-motorized users.
4. Increasing the accessibility and mobility options available to people and for freight.
5. Protecting and enhancing the environment, promoting energy conservation, and improving the quality of life.
6. Enhancing the integration and connectivity of the transportation system, across modes and between modes, for people and freight.
7. Promoting efficient system management and operation.
8. Emphasizing the preservation of the existing transportation system.

1.6 Area Characteristics

Geography

Geographical Washington County is located in the far southwest corner of Utah, just 6 miles from the Arizona state line on Interstate 15. St. George, the county seat, is also the county's largest city. It is nestled in a picturesque valley surrounded by impressive sandstone cliffs. The backdrop is breathtaking with blue skies, clean air, and a friendly business environment, which attracts over 2.5 million visitors annually.

Environment

The climate in the St. George area is semi-arid with two separate rainfall seasons in the early spring and late summer, which average about eight inches of annual precipitation. Although average maximum temperatures for the summer months are between 95 and 101 degrees Fahrenheit, the low humidity makes these temperatures agreeable.

The Southern Utah climate features bright sunshine, small annual precipitation, clean air and a wide daily temperature range. Another attractive feature is mild winters with infrequent traces of snowfall, which rarely stays on the ground more than a day.

The Dixie MPO area lies in the high desert at an elevation of 2800 feet. Within 20 miles north and west of the city are the Pine Valley Mountains (10,000 feet) and the Beaver Dam Mountains (7,000 feet) offering cool mountain climate during the summer. The metropolitan area climate is an attraction in its own right. It has become a green oasis in the desert, and the combination of the warm, dry winter climate and natural beauty of the setting draws both new residents and tourists to the area.

Citizens, developers, local government, and resource agency leadership have been proactive in establishing open space, multi-use recreational facilities, bike paths/trails and protected environments for rare and endangered species as well as providing civic arts and sports facilities of the highest quality for current and future generations to enjoy.

Topography unique to Dixie, including three rivers and their broad flood plains, volcanic topped buttes, Interstate 15 bisecting the old from the new growth, large zones of protected habitat, a native American reservation and proximity to the Utah Arizona border and associated BLM land, present transportation capacity improvement constraints and limitations unlike any other urbanizing area in Utah.

Population & Demographics

The 2000 Census total for the four member cities including areas outside the municipal boundaries but still in western Washington County, was estimated to be approximately 70,000 persons. The projected population for the year 2020 and 2030 for the MPO planning boundary is approximately 225,000 and 315,000 as calculated by the Five County Association of Governments and the Governors' Office of Planning and Budget. Other data listed in the table below are extrapolated from products used to complete the 2005-2020 Interim Long-Range Plans.

Table 2 – Projected Demographics

Dixie Urbanizing Area 30 Year Planning Boundary
Projected 2030 Demographics

Place	Total Population	Population Age 65+	Population Mobility Limited	Minority Population	Population Below Poverty Line	Households with No Vehicle
Ivins	19926	2845	179	1253	1353	40
St. George	185809	41604	3078	14667	21005	2717
Santa Clara	17661	1948	206	517	603	69
Washington	43320	9396	760	2490	3334	127
MPO Total	**266716**	**46923**	**4223**	**18927**	**26295**	**2953**
Hurricane	31216	5144	426	1278	3957	304
La Verkin	12281	1569	60	838	1449	48
Toquerville	3256	432	118	98	464	118
Rural Total	**46753**	**7145**	**604**	**2214**	**5870**	**470**
Grand Total	**313469**	**54068**	**4827**	**2214**	**32165**	**3423**

Sources: 2005 UPEC projections based on 2003 US Bureau of the Census Data, Utah Office of Planning & Budget, Dixie Area Transit Feasibility Study, Fehr & Peers Associates, Inc. 1999, Washington County Planning Office. Because the feasibility study was completed prior to the population projections, the Fehr & Peers #'s were adjusted up based on the population figures using a percentage relationship.

Table 3 - Washington County's Largest Employers
Annual Averages from 2005 – Updated in July 2006

Company	Industry	Employment
Washington County School District	Public Education	2,000 – 2,999
Intermountain Health Care	Health Care	1,000 – 1,999
Wal-Mart	Discount Department Store	1,000 – 1,999
St George City	Local Government	500 – 999
Dixie College	Higher Education	500 – 999
Federal Government	Federal Government	250 – 499
Sky West Airlines	Air Transportation	250 – 499
Washington County	Local Government	250 – 499
Cabinetec	Cabinet Manufacturing	250 – 499
Sunroc Corp	Building Products	250 – 499
Cross Creek Manor	Residential Care	250 – 499
Lin's Supermarket	Grocery Store	100 – 249
Boulevard Furniture	Furniture Store	100 – 249
Albertson's	Grocery Store	100 – 249
Cinnamon Hills Youth Crisis Center	Residential Care	100 – 249
Red Mountain Spa	Spa	100 – 249
Deseret Laboratories	Pharmaceuticals Manufacturing	100 – 249
Andrus Trucking	Trucking	100 – 249
Costco	Warehouse Club	100 – 249
McDonald's	Fast Food Restaurant	100 – 249
Harmon's	Grocery Store	100 – 249
State of Utah	State Government	100 – 249
Interstate Rock Products	Heavy Construction	100 – 249
Pace American	Truck Trailer Manufacturer	100 – 249
Lowe's Home Improvement	Home Improvement Center	100 – 249
Express Service	Employment Services	100 – 249
Tuacahn Center for the Arts	Entertainment Facility	100 – 249
The Spectrum	Newspaper Publishing	100 – 249
Target	General Merchandise Store	100 – 249
Green Valley Resort	Accommodations Resort	100 – 249
Hurricane City	Local Government	100 – 249
Red Rock Canyon School	Residential Care	100 – 249
Xanterra Parks & Resorts	Accommodations	100 – 249
Westates Theatres	Movie Theatres	100 – 249
Home Depot	Home Improvement Center	100 – 249
Split Rock Inc.	Land Subdivision	100 – 249
Wendy's	Fast Food Restaurant	100 – 249
Hurst Stores	Various Retail Stores	100 – 249
Western Watts Interviewing	Telephone Call Center	100 – 249
Auto Select/St. George Ford	Automobile Dealer	100 – 249
Wilson Electronics	Manufacturer	100 – 249
SG Nursing Home	Nursing Care	100 – 249
Red Cliff Ascent	Residential Care	100 – 249
Quality Excavation	Construction	100 – 249
Wells Fargo Bank	Banking	100 – 249
Zion's Bank	Banking	100 – 249
Burger King	Fast Food Restaurant	100 – 249
DATS Trucking	Trucking	100 – 249
Red Cliffs Regional	Residential & Nursing Care	100 – 249
Orgill	Hardware Wholesaler	100 – 249
Smith's Food & Drug	Grocery Store	100 – 249
Sears Roebuck	Department Store	100 – 249
Southwest Center	Local Government	100 – 249
RAM Manufacturing	Manufacturing	100 – 249
City of Washington	Local Government	100 – 249
St. George Truss Company	Truss Manufacture	100 – 249

According to the Utah Department of Workforce Services there were approximately 3,381 employment establishments operating in Washington County in 2005. It should be realized that companies come and go. In 2004, the number of employment centers in Washington County with more than 100 employees was 45. As is the case with many businesses, there are seasonal peaks in employment, such as the Christmas holiday season at retail establishments. The largest employer in the urbanizing area is the Washington County School District. Their employees, however, and their work destinations, are spread throughout the Urbanizing area. The total employment at the two Wal-Mart Super Centers and Distribution Center is next. The third largest employer in the county is Intermountain Health Care. The hospital company opened the new 250 bed Dixie Regional Medical Center in mid-November 2003, expecting an estimated 350 new jobs.

Commuter Characteristics

Patterns for residents within the DMPO area and their travel to work are available only on a countywide basis from the 2000 Census. These patterns are illustrated below:

According to the U.S. Census Bureau, Community Transportation Planning Package Program staff, commuter trip data at the Traffic Analysis Zone level will not be available until 2008 or after. Once the St. George Urbanized Area is included, the CTPP package will improve planning and modeling data quality for the Dixie urbanizing area.

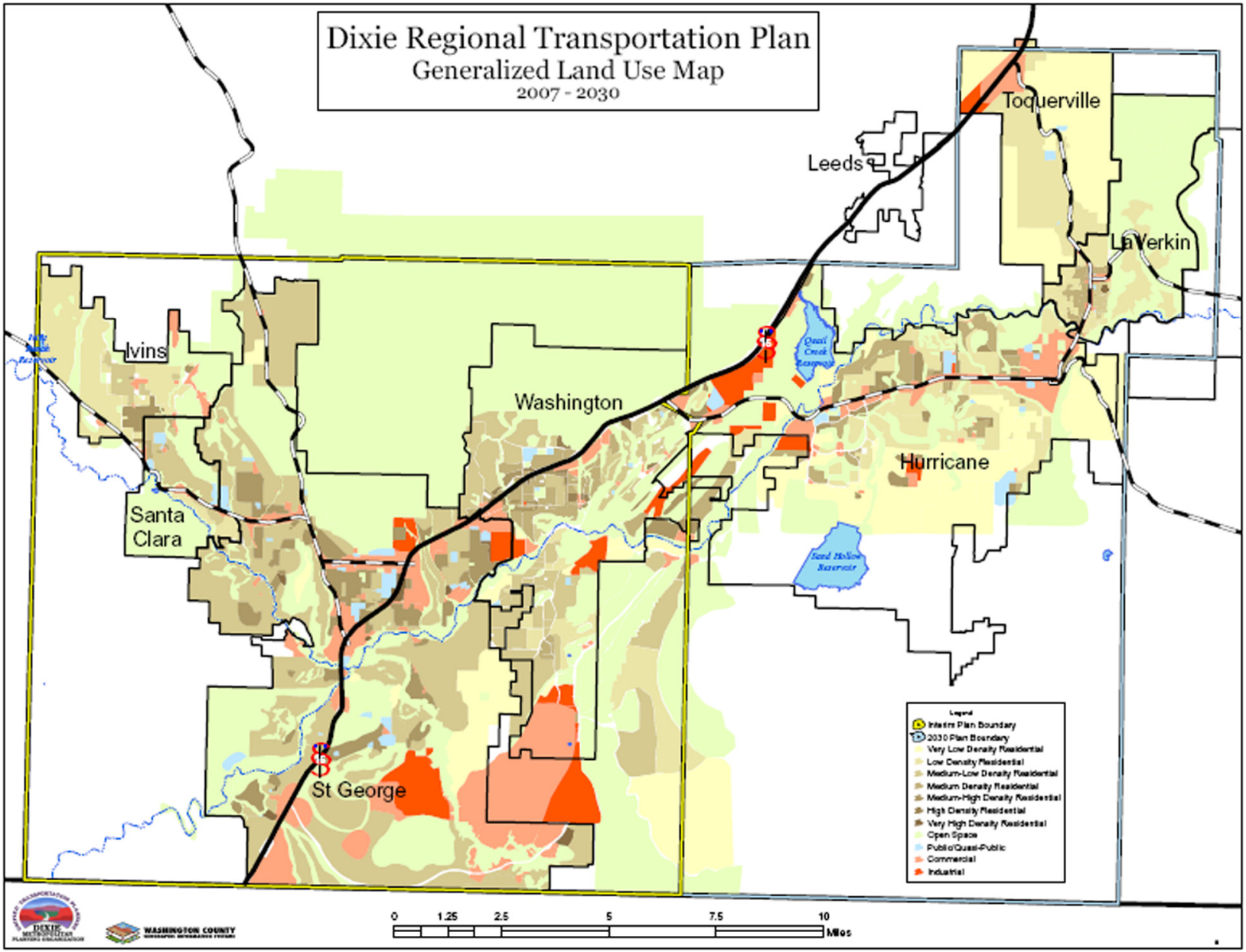
Table 4 – Commuting Patterns

Workplace of Washington County Residents By County, State and Country	
Workplace	**Number of Residents**
Within County	32,708
In neighboring county within the SW area	489
In state North and East of the SW area	395
Counties in Nevada and Arizona	1,088
Out-of-state	257
Out-of-country	30

1.7 Transportation & Land Use Relationship

Each of the participating cities has created a future land use map, including estimated densities, based upon population projections and other pertinent information. Other cities and towns within the greater DMPO planning boundary have also created similar maps. This planning information was merged into one map to represent overall land use densities in the region (See “Generalized Land Use Map” and Table, following).

Generalized Land Use Map



Generalized Land Use Table

City	Designation	MPO Type	Total Acres	Units/acre in MPO Plan	Potential in MPO Plan
Hurricane	Commercial	C			0
Hurricane	High Density MFR	MHDR	252.20	10.00	2522
Hurricane	High Density SFR	MDR	1476.54	5.50	8121
Hurricane	Industrial	I			0
Hurricane	Lake	OS			0
Hurricane	Low Density SFR	LDR	1274.88	2.50	3187
Hurricane	Medium Density MFR	MHDR	791.56	10.00	7916
Hurricane	Medium Density SFR	LDR	2484.17	2.50	6210
Hurricane	Open Space	OS			0
Hurricane	Park	OS			0
Hurricane	Pedestrian Oriented	C			0
Hurricane	Public Education	P/QP			0
Hurricane	Public Land	P/QP			0
Hurricane	Research/Education	P/QP			0
Hurricane	Traditional Neighborhood	C			0
Hurricane	Very Low Density SFR-5	VLDR	1209.90	1.00	1210
Hurricane	Very Low Density SFR-2.5	VLDR	0.00	1.00	0
Hurricane	Very Low Density SFR-1	VLDR	6124.90	1.00	6125
			13614.15		35291
Ivins	Commercial	C			0
Ivins	High Density Residential	MHDR	291.33	10.00	2913
Ivins	Industrial	I			0
Ivins	Low Density Residential	LDR	3406.81	2.50	8517
Ivins	Medium Density Residential	MLDR	342.82	4.00	1371
Ivins	Open Space	OS			0
Ivins	Park	OS			0
Ivins	Preserve	OS			0
			4040.96		12802
La Verkin	Ag Res	LDR	570.60	2.50	1427
La Verkin	City	P/QP			0
La Verkin	Commercial	C			0
La Verkin	Flood Plain	OS			0
La Verkin	HDR	MDR	226.32	5.50	1245
La Verkin	Hillside	OS			0
La Verkin	LDR	LDR	282.88	2.50	707
La Verkin	La Verkin Creek SRMA	OS			0
La Verkin	MDR	MLDR	117.83	4.00	471
La Verkin	MH	MDR	22.23	5.50	122
La Verkin	Residential	LDR	911.96	2.50	2280
La Verkin	Test Track Lease	OS			0
La Verkin	VHDR	VHDR	7.00	22.00	154
La Verkin	View Corridor	OS			0
			2138.82		6406

	MPO	
vhdr	5746	22.00
hdr	3930	16.00
mhdr	49722	10.00
mdr	18840	5.50
mldr	93386	4.00
ldr	33328	2.50
vldr	18400	1.00
	223352	

City	Designation	MPO Type	Total Acres	Units/acre in MPO Plan	Potential in MPO Plan
Santa Clara	High Density Residential	MDR	88.36	5.50	486
Santa Clara	Historic Commercial	C			0
Santa Clara	Institutional	P/QP			0
Santa Clara	Low Density Residential	LDR	286.94	2.50	717
Santa Clara	Medium Density Residential	MLDR	786.04	4.00	3144
Santa Clara	Open Space	OS			0
			1161.34		4347
St. George	Business Park	C			0
St. George	Business Park Airport Friendly	C			0
St. George	Commercial	C			0
St. George	High Density Residential	VHDR	254.20	22.00	5592
St. George	Industrial	I			0
St. George	Low Density Residential	MLDR	12628.05	4.00	50512
St. George	Medium Density Residential	MHDR	3066.15	10.00	30662
St. George	Mixed Residential	MLDR	3479.41	4.00	13918
St. George	Open Space	OS			0
St. George	Open Space Flood Plain	OS			0
St. George	Open Space Golf Course	OS			0
St. George	Open Space HCP	OS			0
St. George	Open Space Snow Canyon	OS			0
St. George	Parks	OS			0
St. George	Professional Offices	C			0
St. George	Public Facilities	P/QP			0
St. George	Resort	C			0
St. George	Rural Residential	VLDR	1821.88	1.00	1822
St. George	Town Center	C			0
St. George	Very Low Density Residential	VLDR	391.13	1.00	391
			21640.82		102897
Toquerville	Commercial	C	570.40		0
Toquerville	Light Industrial	I	173.03		0
Toquerville	Low Density Residential	LDR	2786.54	2.50	6966
Toquerville	Parks	P/QP	64.45		0
Toquerville	Rurral Residential/Agricultural	VLDR	5421.13	1.00	5421
			9015.55		12387
Washington	Business	C			0
Washington	Civic	P/QP			0
Washington	Community Commercial	MDR	277.17	5.50	1524
Washington	Estate Residential	VLDR	3431.21	1.00	3431
Washington	High Density Residential	HDR	215.22	16.00	3444
Washington	Industrial	I			0
Washington	Low Density Residential	MLDR	5992.36	4.00	23969
Washington	Medium Density Residential	MDR	1445.45	5.50	7950
Washington	Medium-High Density Residential	MHDR	558.72	10.00	5587
Washington	Neighborhood Commercial	C			0
Washington	Open Space	OS			0
Washington	Park	OS			0
Washington	Pond	OS			0
Washington	Regional Commercial	C			0
Washington	Very Low Density Residential	LDR	1944.52	2.50	4861
			13864.65		50767
Washington Cc	Residential Transition				0

1.8 Regionally Significant Facilities

A variety of regionally significant facilities/projects has been identified within the DMPO boundary. These projects, totaling nearly 40, include portions of the southern, northern, and western corridor as well as bridge improvements, and road widening and reconstruction and possibly a bus rapid transit corridor. Total estimated cost for these projects phased over the planning horizon is *1.41 Billion dollars.* Facilities that meet the definition of 'regionally significant', to be comparable to UDOT and the other MPO's in the state, include, Major and Minor Arterials, and Bus Rapid Transit (facility with dedicated travel way). The Dixie MPO may select certain Major Collectors that are functioning at a higher level justified by limited corridor options open in the Dixie area due to topography constraints on capacity expansion or new corridor feasibility.

1.9 Summary of Transportation Modeling & Analysis Tools

Prior to the MPO designation, the City of St. George put in place a regional traffic model using the QRS II platform. In 2002, the MPO supported a contract to re-calibrate the model to Census 2000 data and subsequently in 2004 another MPO contract generated year 2015 and 2035 traffic projections based on updated population and employment data from the Governor's Office of Planning Budget. During 2005 and 2006, several corridor studies were undertaken using the model, including SR-9 in Hurricane where a new model was created.

Because of new land use information and population assumption changes identified, these corridor "models' influenced the need to expand the regional model and to re-calibrate. The model now includes the Hurricane/LaVerkin Urban Cluster, Toquerville, Leeds Town, and the four cities in the Dixie MPO Planning Boundary, Ivins, Santa Clara, St. George and Washington. This model reflects the travel relationships between communities.

To maintain a more defensible model for planning purposes, beginning in July 2007, a Travel Demand Model Data Improvement Program will be developed and implemented. The objective is to gather empirical data for input to the model parameters to better reflect travel behavior occurring in the urbanizing area rather than relying upon national parameters.

1.10 Summary of Public Involvement Process

The members of the Dixie MPO participate along with other stakeholders, land management agencies, and input from the public through a public involvement process, in the forecasting of transportation needs, and determining just how resources will be utilized to develop and improve the transportation infrastructure, et.al., bicycle paths, highways, and public transit while striving to minimize congestion, maintain quality air and environmental amenities.

Public involvement is a key element in the planning process, and includes public meetings, open houses and hearings required and desired to obtain inputs from interested citizens, stakeholders, and land management agencies in the decision making process. Extensive outreach efforts are an ongoing effort to obtain input from low income and persons with disabilities who may have difficulty attending meetings, including the management and updating of an MPO website where information can be easily displayed to citizens.

The general public has become more and more aware and sensitive to transportation issues and needs in Dixie as evidenced by growth in attendance at open houses held at various times since 2000. In February 2006 over 800 people attended the first annual Southwestern Utah Transportation EXPO, as compared to 25 citizens attending the Dixie MPO Openhouse in December of 2003. Over 930 people attended the February 6th, 2007 EXPO with interests ranged from early visioning, corridor planning, long and short range planning, project development, projects currently being designed and constructed, safety strategies and plans and projects, and Intelligent Transportation System plans and projects.

1.11 Joint Policy Advisory Committee

Dixie MPO has attended meetings of this Wasatch Front for more than a year and became full-fledged voting members in April 2007. This advisory group, made up of Cache, Dixie, Utah Valley and WFRC MPOs, UDOT, and UTA, meet to discuss common issues and develop strategies for meeting Utah's urbanized area transportation infrastructure needs.

The member organizations of the Joint Policy Advisory Committee (JPAC) have joined to improve communication and coordination on transportation issues for the four urbanized areas in the State of Utah. Topics of discussion can include, but are not limited to major projects, policy, legislation, funding, program of projects and long range transportation plans.

JPAC, currently with 26 voting members, functions as an advisory body to its member agencies. Members agree to share information available about travel in urbanizing areas and about critical transportation issues. Members have the opportunity to reach consensus on how to meet the transportation challenges facing the urbanized areas in the state.

2 VISIONING

2.1 Overview of Regional Visioning Process

Pre-urbanized designation, the local government agencies involved in an informal regional transportation committee, which became the technical advisory committee to the MPO policy body, developed a 'charter' agreeing to work together for the common good and to act by adherence to a quality initiative. The initiative established the following mission, vision, and operating values, which were later formally adopted via an M.O.U. by the MPO policy body:

Mission: "Providing Unified Transportation Planning for Utah's Dixie"

Vision: "A Safe, Pleasant, and Efficient Transportation System in Utah's Dixie, Through Proactive Leadership, and Excellence in Transportation Planning"

The following eleven operating principles agreed upon were intended as active behaviors of all partners and their representatives in the planning process," for today, tomorrow and in the future":

Operating Values:

1. Seek equity and trust in stakeholder decision making, and partnership building
2. Focus on Issues
3. Operate using shared team leadership, resources, and knowledge to improve customer service
4. Represent the ideals of the MPO policy body and communities
5. Listen, and respect the views of others
6. Strive for mutually beneficial goals/objectives through common permanent solutions
7. Be proactive
8. Make the right decision for the right reasons
9. Reach out for public support and buy-in

10. Base all decisions on facts, verified data, and observable behavior

11. Communicate clearly for cooperation, consensus, coordination, collaboration, and commitment

2.2 Regional Growth Issues

After MPO designation, the Dixie Transportation Executive Council participated in a visioning process identifying goals and objectives that were stated in the following key elements:

MPO Goals and Objectives:

Responsibility- Fiscal, Safety, Public Involvement, and Education

Mobility- Provide mode choices in transportation plans and systems

Consistency- Plans, standards, system function, partnering, relationships

Convenience- Regional planning scope and accessibility of systems

Beauty- Access to amenities, preserve vistas/sites, appropriate landscaping

Connectivity- System connectivity, teamwork, planning for the future

Expansion- Hurricane/LaVerkin Cluster

Quality of Life- Congestion mitigation, air quality protection, community health standards, maintaining open feeling and community identity, enhance law enforcement and emergency access

Evaluation- Establish performance measures that relate back to the mission, vision, operating values, goals, and objectives, including obtaining input and providing feedback to/from the public

UDOT Goals and Objectives:

The Dixie MPO philosophy is to coordinate with all partners, and especially align our values efforts and decisions to coincide and support statewide goals and objectives. UDOT's Strategic Direction guides the Departments' efforts to improve the quality of life and economic vitality of the State via four Goals as operating principles, and Focus Areas within the Goals:

1. Take Care Of What We Have
   - Pavement Preservation
   - Bridge Preservation
   - Snow and Ice Removal
   - Signage & Stripping

2. Make The System Work Better
   - Traveler Information
   - Traveler Behavior
   - Incident Management
   - Managed Lanes

3. Improve Safety
   - Reduce Fatalities
   - Reduce Pedestrian Fatalities

4. Increase Capacity
   - Mobility

Add Lanes
Choke Points
Managed Lanes

Transit Goals and Objectives:

SunTran, the public transit service for The City of St. George identified several goals and objectives during their recent Transportation Master Plan Update. They are summarized in the following focus areas:

1. Maintain as much of existing services as possible, given limited financial resources.
2. Provide alternative modes of transportation in accordance with the St. George City Master Traffic & Transportation Study.
3. Address transit program issues through Service, Capital, Institutional, and Financial modifications.
4. Meet the requirements of the Americans with Disabilities Act (ADA).

The Dixie MPO encourages the expansion of public transit throughout the region, as demand grows and political will and funding allows, and to provide:

1. Alternative modes to make regional trips
2. Access for work, business, social, recreational, and other trip demand for persons with disabilities, the elderly and low income families, and households with zero or 1 car.
3. To provide job access and reverse commute trip needs
4. To help reduce single occupancy vehicles during peak travel demand

Bicycle & Pedestrian System Goals and Objectives:

The Washington County Bike/Ped. Committee identified several goals and related objectives, as requested by the MPO, for inclusion in this plan:

Bicycle & Pedestrian System Goals and Objectives:

1. Facilitate the appropriate design, construction, and maintenance of bicycle and pedestrian facilities.

   Objective A. Assist in identifying major bicycle and pedestrian routes that can provide safe and convenient access to all parts of the community.

   Objective B. Encourage those involved in the design and construction of facilities to follow nationally accepted.

   Objective C. Encourage those involved in the maintenance of facilities to develop and follow consistent practices that provide safe and clean facilities.

2. Support a multimodal transportation system for all new construction and reconstruction projects.

   Objective A. Support the regular involvement of user groups in the identification of facility improvements.

   Objective B. Encourage public participation in governmental processes that improve bicycle and pedestrian conditions.

Objective C. Develop infrastructure for both transportation and recreation.

Objective D. Advocate funding from various sources.

3. Encourage education programs that improve bicycle and pedestrian safety.

Objective A. Assist in educational programming on safety for bicycles, pedestrians, and motorists.

Objective B. Encourage dissemination of information to the public on the bicycle and pedestrian system such as route maps

Regional Growth Principles

Each MPO city has completed a general plan within the last several years. Each of those general plans outlines specific issues that should be considered for future development. Issues common among all the cities are paraphrased and listed below:

1. The preservation of open space, scenic views, and breathtaking landmarks;
2. Support existing businesses and attract new business to provide a wide range of employment opportunities;
3. Allow for development of a variety of housing types to meet resident future needs;
4. Ensure adequate infrastructure and other public services;
5. Plan for, construct, and maintain a transportation system to move residents as well goods and services throughout the area;
6. Provide for a wide range of recreational opportunities.

Using the most recent general plans from each of the MPO and nearby cities, a generalized land use map was prepared for residential land uses within the 2030 planning area. Please see map and table on pages * and *. The most striking point of this land use plan is that historic high and sustained growth in the MPO area is expected to continue well into the future. While densities will increase in the central areas of the communities, some expansion of developed areas is also expected. The land uses planned for will support approximately 225,000 housing units. In addition to this data, a Washington County build-out study was completed in 1994. That study identified three scenarios: high; medium; and low growth. See a comparison summary in Table *. Total population figures from the Governor's Office of Planning & Budget and the mid-range scenario from the Build-out Study are roughly similar (see table * below).

Table 5 - Washington County Build-out Study Scenario Comparison

Scenario 1	Scenario 2	Scenario 3
142,143	333,332	706,838

Table 6 - GOPB/County Build-out Study Comparison

GOPB 2030 projection	Washington County Build-out Study mid-range
353,922	333,332

2.3 Update of Regional Vision

Next steps in this element of the planning process will be four-fold during the next 2-4 years:

1. Identify performance measures linking UDOT and MPO goals/objectives through the DTAC and DTEC procedures.
2. Update baseline regional transportation network and land-use mapping
3. Coordinating with and extracting from the **countywide Vision Dixie process**:
   Common regional concepts and themes
   Quality Growth principles and related performance measures
   Development of Land-Use/Transportation Scenarios

2.4 Transportation Coding & Modeling

In conjunction with the countywide 'Vision Dixie' Process which began August 1, 2006, the Hurricane Area and St. George Area Traffic Demand Models have been merged into one expanded regional model utilizing the QRS II Platform. The geographical area represented by the model includes the current cities within the St. George Urbanized Area, and the communities anticipated to be urbanized by year 2030, Hurricane, LaVerkin and Toquerville. The rural town of Leeds is also included in the model to allow modeling of Interstate 15 from the north boundary of Leeds southwesterly to the Utah-Arizona border. The following tasks have been identified to assist in the planning process:

Short term

1. Develop and implement an ongoing model data improvement program
2. Model transportation scenarios within the Vision Dixie Process

Long term

1. Re-calibration every 5 years due to anticipated high growth rate
2. Utilize the modeling tool for congestion related capacity improvement decision recommendations

3 NEEDS ASSESSMENT

3.1 Public Participation

MPO Committees

The technical advisory committee and policy body of the MPO represent staff and elected officials of the MPO cities and have their constituents needs as well as regional needs in mind in the decision making process. The MPO assumes and provides education to voting members to encourage a regional perspective as they deliberate options, strategies, and plans of regional significance. These committees take into consideration the input from the general public, consultants and property owners in making decisions that are best for the region.

Planning Participants & Stakeholders

1. Support the current and future updates of the Washington County Vision Dixie Process as a tool for long range planning direction and options for land use. The MPO policy body will use transportation scenarios coming from the vision process as input to determining long and short-range needs and projects to meet those needs. DTEC will have the final say on transportation Plans and Programs.
2. Continue co-sponsoring the annual Dixie Transportation EXPO as the primary forum for gaining broad based input from the public on vision, planning and project development, construction and operations.
3. Continue to hold open houses and public hearings according to federal state and local regulation, 30-day comment periods, etc. for all plans, amendments and updates, and improvement program modifications and updates.
4. Establish a standing planning committee that would function as an advisory to the MPO Technical Advisory Committee (DTAC). The committee would have representation from the public, land-use agencies, resource agencies, and special interest groups. MPO staff approached the DTEC on the subject in 2004 but vote failed. The need is greater as environmentally sensitive corridor/project development is confronted. The MPO policy body will be asked to reconsider this issue in 2008.

Currently the MPO seats steering committees/teams and stakeholder committees/ teams to guide and provide input on corridor and other long range and project planning studies. These team/committees end at the conclusion of such studies (final report).

Outreach Efforts

Legal Notices to Media, specifically newspapers, (major and ethnic); Press releases and notices to media, newspapers, radio and TV; Meetings are held in accessible facilities; Notices to agencies representing persons with disabilities, low income, and elderly persons; Staff prepared presentations, articles, and updated the MPO website; Study steering and stakeholder groups are established to obtain representation from Resource agencies, environmental groups, developers, and citizens.

3.2 General Needs Overview

Currently the Dixie MPO bases its general needs on input from the policy and technical committees and MPO staff and other agency partners, including observed traffic congestion on the existing system, and comment from the public taken from the Public Involvement Process. The regional needs from these resources are summarized below:

1. Increase capacity of the roadway network
2. Champion the need for the 'Dixie Beltway'
3. Deploy ITS strategies to improve communications, coordination and traffic flow
4. Maintain the regions Quality of Life and Economic vitality
5. Develop a Performance Based Planning Process
6. Enhance and expand public and specialized transportation
7. Enhance and link pedestrian and bicycle facilities

The conclusion of MPO staff based on feedback from consultants using the model is that the modeling efforts to date, and the ability to predict the future traffic demand is extraordinarily accurate and for the near term the QRS II platform is more than adequate. Improvement strategies are as follows:

1. Increase capacity of model platform (Purchase maximum TAZ platform capacity software by August 2007)
2. Improve empirical data for planning and modeling (a model data improvement program by March 2008)
3. Improve empirical data for transit system use and bicycle/ped. path use (onboard survey, rider-ship data, and bicycle path use counts)

3.3 Highway System Review

Utilizing the roadway network to support the vibrancy of the central downtown area will provide numerous benefits to the citizens of the Dixie Region. The better the roadways perform, the greater the benefits to the public. Mobility will be improved, commutes will be less stressful, travel times will be reduced, and the delivery of goods and services will expand.

Maintenance & Reconstruction of Existing System

Much of the existing pavement in the Dixie region is substandard, except for newly constructed roadways, which are being designed for higher traffic volumes. With A rapidly growing population and related traffic growth coupled with heavy truck and rock hauling in reaction to the flood of January 2005 has severely damaged pavements that were not designed for the current traffic growth much less the heavy truck usage since the flood. The MPO encourages all cities and the county to design all rehabilitation and new construction with the projected growth in traffic and heavy truck traffic anticipated as the Dixie area builds out.

1. Build to higher strength standards
2. Limit/ or restrict heavy trucks on certain roadway, then
3. Protect and preserve what exists using life cycle cost principles

Highway Expansion

Socio economic indicators as well as population growth rates are projecting the need for increased highway capacity and additional routes across the Virgin River and to improve connectivity between the north and south development across the length and breadth of the 2030 planning boundary. These growth factors support the need for improved mobility and access to planned land uses. Using model outputs determine needed corridor capacity increases to meet future trip demand

3.4 Transit System Review

Conditions of Existing System

In 2005, SunTran had a system-wide rider ship of 159,372, which is up from a 2003 rider ship of 65,935. During the timeperiod between July 2004 and June 2005, monthly rider ship increased from approximately 8,000 to nearly 14,000. SunTran currently provides service on three routes in the greater St. George City area (see "SunTran Route Map," following). The transit system has stops that are identified as high rider-ship stops. They are Red Cliffs Mall, Deseret Industries, McDonald's & Main Street, 100 S. /300 West Transfer Point, 1230 N. /1400 W., 850 N. /270 E.

Overall, the 2003 study forecasted that total annual SunTran rider-ship in 2005 would be 81,400 one-way passenger trips if the service were to remain at status quo, but would include the implementation of Saturday service. In comparison, actual 2005 rider-ship (with partial implementation of the 2003 plan elements) was 159,151, approximately 95 percent above the forecast.

Table 7 – SunTran Ridership

Year	Mileage	Seating Capacity	Accessibility	Planned Replacement Year
2003	9,568*	6	No	2011
2003	21,909*	7	No	2011
2005	n/a	27	Yes	-
2005	n/a	27	Yes	-
2001	214,826	18	Yes	2007
2001	202,699	18	Yes	2008
2001	195,008	18	Yes	2008
2002	140,091	18	Yes	2009
2002	114,489	18	Yes	2009

* Non-revenue vehicles

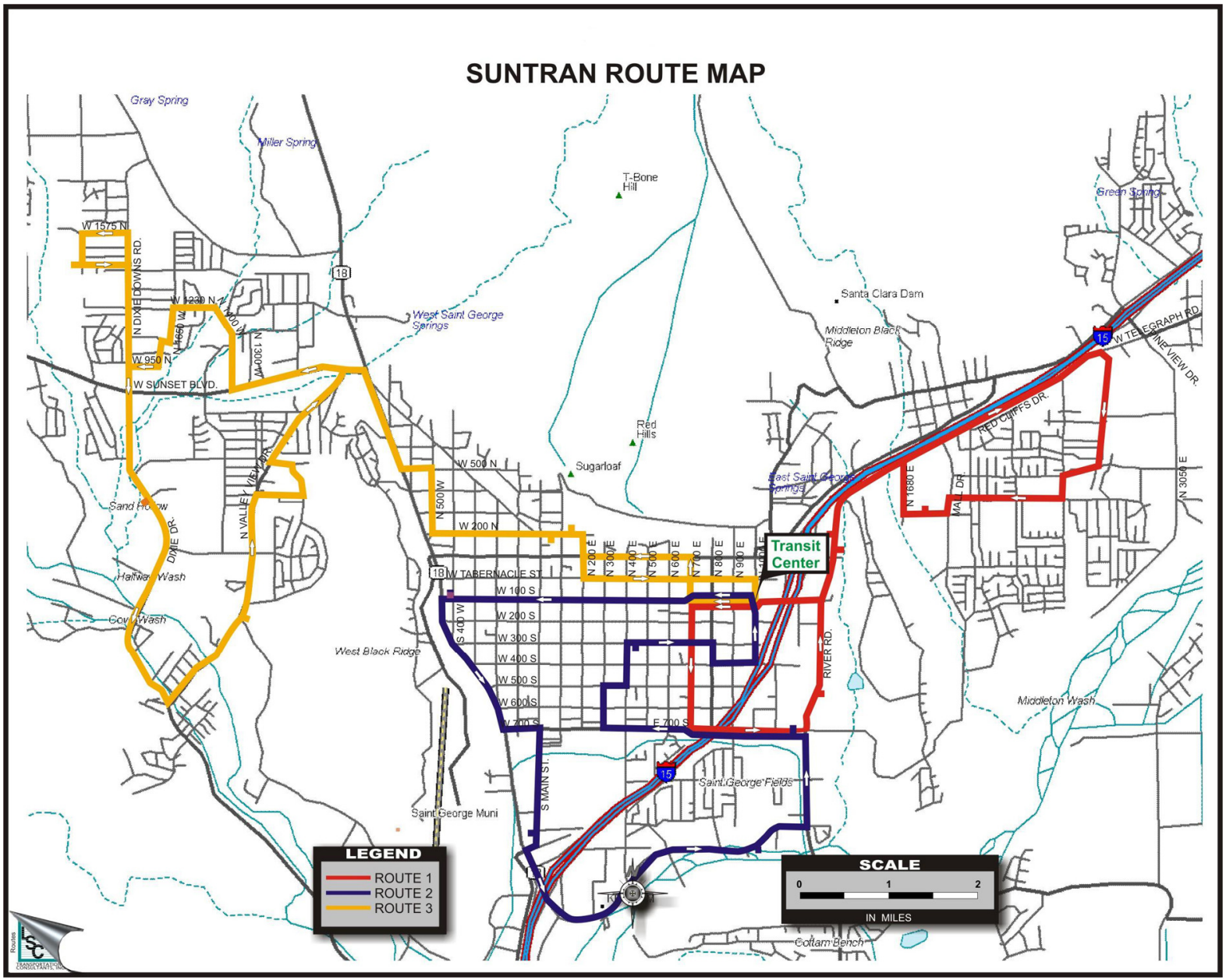
Transit System Improvement Needs

Public transit use; A good transit system provides goods and services that are otherwise unattainable to persons without access to an automobile or people who choose not to use an automobile. Public transit allows the young, the elderly, and the disabled to have a viable transportation option. A good public transit system will provide benefits by reducing automobile dependency and air pollution while supporting the economy of the Dixie area. With increased population there is a potential need for Bus Rapid Transit (BRT) linking St. George City and Hurricane City areas by 2030.

As noted above, the populations of the four MPO cities are expected to grow from an estimated total of 94,646 in 2005 to 266,716 in 2030.

The SunTran system is challenged with providing services to a rapidly growing community. In addition to new areas of residential and employment development, which require the modification or addition of routes, more frequent services is needed to provide an alternative as demand increases. Some key areas not currently served are Foremaster Dr./Riverside Dr., east Red Hills Drive, St. George Industrial Park, Mill Creek, Bloomington Hills, Ft. Pierce Industrial Park, Bloomington, Tonaquint Industrial Park, Sun River Development and other surrounding Cities.

Sun Tran Route Map



Other transit improvement issues are inconvenient hourly service to discretionary riders, late running buses, and need for additional staff. Some possible solutions to some of these issues are ½-hour service on existing routes, modification of existing routes and addition of new routes.

The St. George Urbanized Area Short Range Transit Plan, Fiscal Years 2003-04 to 2007-08 made several key service recommendations:

1. Provide Saturday Service: This has been implemented.
2. Provide 30-minute Fixed Route Service: This has yet to be implemented.
3. Another major service improvement (which was not identified in the 2003 study) was the extension of service to 8:00 PM.

3.5 Identification of Primary Corridors

Topography as well as man made constraints in the Dixie Region limits capacity growth as the area builds out. These constraints comprised of buttes, rivers, Interstate 15, state and federal land ownership boundaries, including Indian reservations, environmentally sensitive lands, and geological and archeological barriers, narrows options for applying transportation options to meet future traffic growth. These factors combined place the Dixie MPO on a level planning field with Utah's larger urbanized areas in the competition and need for federal, state, and local dollars. Without significant and timely funding support, the areas growth will bring gridlock to the transportation network and destroy the economic viability and live-ability of this attractive area. The following corridors with projected 2030 highway volumes are of highest priority:

Table 8 – High Priority Corridors

Corridor	Average Traffic Volumes
Interstate-15	95,000
SR-9	53,000
Bluff Street (SR-17)	45,000
Northern Parkway	45,000
Southern Parkway	40,000
Western Corridor	35,000
700 South @ Foremaster	28,000
Red Hills Parkway	20,000
Telegraph Street	20,000
In the fields	20,000
300 East (H)	18,000
Washington Dam Rd. (W)	15,000
600 North (H)	10,000
West of Sand Hollow	10,000
River Road-North of Riverside Dr.	37,000
Mall Drive-South of Riverside Dr.	29,000
Brigham Rd. River. Rd.-North of 'Y'	28,000

3.6 Other Transportation Modes Needs

Existing Bike/Ped/Trails Usage

Counts along trails in the MPO area are not available at this time. The UDOT is scheduled to take usage counts along two of the main trails in our area. These counts will be very helpful not only in identifying what some feel is significant use, but also in stimulating additional counts in the area. When the data is available, it will be incorporated into the Regional Transportation Plan. It is anticipated that the data will not be available for this writing.

Bicycle, Pedestrian, & Trails

Pedestrian/bicycle use: A good pedestrian network provides not only an alternative mode, but also a recreational opportunity. Trail systems add to the quality of life in Washington County by encouraging exercise and healthy lifestyles.

This chapter provides the framework for citizens, staff, and consultants to work together to provide biking and walking facilities that meet the needs of our communities, including access to work, recreation, schools, businesses, community facilities, and other modes of transportation (e.g. transit).

Bicycle and pedestrian planning occurs on several levels. This chapter addresses the broadest level of planning in order to encourage individual and more detailed planning efforts of local communities. The intent of this chapter is to identify common principles by which the bicycle and pedestrian transportation system can grow and change. It also establishes goals, objectives that can be utilized by area communities. A copy of the Washington County Bicycle and Pedestrian Guide is available in the MPO Office. It is anticipated that each community will further expand bicycle and pedestrian planning on a more focused scale, identifying details such as policies, needs, project work, funding, and scheduling.

An effective bicycle and pedestrian transportation system makes use of paths (or trails), sidewalks, and roadways. These will be the management areas addressed. The 'Dixie Regional Bicycle and Pedestrian Committee' has identified goals to encourage and support local bicycle/pedestrian ways as alternatives to motorized vehicular traffic which are included in the . They are:

1. Increase bicycle and pedestrian facilities
2. Ensure local agencies utilize federal and state funding resources
3. Coordinate bicycle/pedestrian systems between municipal, county, state, and federal lands
4. Ensure the appropriate design, construction, and maintenance of facilities
5. Support education outreach that improves safety

Complete Streets

The term "Complete Streets" was developed to describe the ideal transportation-planning scenario. One in which bicycle and pedestrian facilities are an integral part of transportation planning. The complete streets concept calls for all transportation facilities on which bicycles and pedestrians are permitted by law, including but not limited to streets, roads, highways, bridges, buses, trains, transit facilities, and all connecting pathways should be designed, constructed, operated, and maintained so that all modalities, including people with disabilities, can travel safely and independently. While there is no definitive prescription for what a complete street looks like, common amenities include sidewalks, sidewalk bulb-outs, bike lanes, wide shoulders, plentiful

crosswalks, raised crosswalks, refuse medians, bus pullouts, special bus lanes, and audible pedestrian signals.

Regional Freight Movement

The UDOT Freight Planning Office prepared the following narrative and baseline information for this 2030 plan in cooperation with FHWA and Utah Trucking Association staff and member companies. During the next four years local information and data will be gathered to improve empirical and user data effecting and influencing planning and design of capacity projects.

Overview:
Located in the southwestern corner of Utah, the Dixie Metropolitan Planning Organization (MPO) encompasses the fast-growing St. George/Santa Clara/Washington metro area. Although lacking in heavy industry or substantial agricultural development, a considerable amount of freight originates and terminates in the Utah's Dixie, in addition to that which passes through the area on Interstate Highway 15.

With the exception of very limited small parcel air cargo service operating into the current St. George Municipal Airport with United Parcel Service and Federal Express, all freight movements in the Dixie MPO area are handled by truck. Due to geographical and historical issues, no railroad was ever built into the St. George area, with the nearest rail freight terminal being located in Las Vegas, Nevada. Other than natural gas transmission lines, no common carrier pipelines serve the region.

The lack of freight transportation options has inhibited the economic growth of southwestern Utah in certain business segments, although truck-served business and light industrial growth is booming along with the area's population. To stay ahead of growth-related congestion and to capitalize on the aforementioned business opportunities, it is imperative that the Dixie MPO, working in cooperation with UDOT, actively considers the needs of the trucking industry as they relate to the area's congestion and truck-access challenges.

Truck Operations:
Trucking is the economic lifeblood of the market area encompassing the Dixie MPO. Trucking operations in the Dixie MPO take on two distinct identities first, long haul truck operations and second, local, and regional truck service.

Long-Haul Trucking:
Long haul trucking has less impact to local street congestion than local and regional trucking. Most long distance trucks pass through the St. George area without ever leaving the freeway. I-15 serves as both the primary NAFTA-related "Can-A-Mex" Corridor between Canada and Mexico via the Mountain West, as well a main east-west freight route linking southern California with the Midwest and East Coast.

The one problem area involving long distance trucks on I-15 is at MP4 in Bloomington, where the current combination "teardrop" and traffic circle layout of the interchange is hardly suited to the heavy truck traffic trying to access the "Flying J" Truck Stop adjacent to that exit. Additionally, MP4 is the primary access route to Dixie's largest and fastest-growing industrial park, which currently generates over 250 truck movements each day. As new truck traffic continues to grow on I-15 as well as into the Fort Pierce Industrial Park, a new design for MP4 is increasingly needed.

Just east of St. George and Washington, State Route 17 joins I-15 at Hurricane, Utah. SR 17 is a secondary highway freight route linking U.S. Highway 89 between Arizona and northern Utah with I-15 via SR 59 through Colorado City. This route is seeing an increase in Canada/Mexico–related truck traffic, as well as refrigerated trucks carrying produce from the Salt River Valley near Phoenix.

The primary problem on this route is Hurricane Hill; a steep, twisting two-lane road that descends the volcanic bluffs overlooking Hurricane. This section of SR 59 lacks adequate passing lanes and has a major downgrade that ends abruptly in residential Hurricane close to an elementary school.

The proposed by-pass highway around the St. George/Hurricane area, if properly designed to handle the area's growing truck traffic, should be able to address both the Hurricane Hill and Fort Pierce Industrial Park freight flow issues in the future.

Local & Regional Trucking:
The Dixie MPO encompasses three separate industrial areas that see considerable local and regional truck traffic. The largest of the three is the Fort Pierce Industrial Park, which is located about three miles southeast of I-15 from MP4 at Bloomington. The Fort Pierce Industrial Park is where most future industrial development will occur in the Dixie area in terms of industries that will generate substantial daily truck numbers.

Next in line in terms of truck traffic and growth potential is the Washington Industrial Park, located about one mile south of I-15 off MP10. With limited area for growth, this industrial park will most likely see smaller, less truck-intensive industrial development, while larger businesses move to the Fort Pierce facility. Although MP10 was recently rebuilt and reconfigured, sizeable growth in truck traffic at this location could adversely affect the growing retail and residential auto traffic that must use the same facility, thus driving improved modifications to the interchange and access roads.

The St. George Industrial Park is located less than a mile from MP8, a couple of blocks to the north of St. George Blvd. As the area's original industrial complex, the St. George Industrial Park is slowly loosing its truck-intensive businesses to the area's other two industrial complexes due to a lack of growth capability and traffic growth on the roadway network in the vicinity.

Beyond the three industrial parks, the Dixie area's explosive population growth has fueled equally expansive increases in local delivery and construction-related truck traffic. Retail outlets, building supply businesses, as well as housing and retail construction have put an increasing number of cement and gravel trucks, parcel delivery vans, as well as over-the-road "18 wheelers" on city streets, which are not designed for such traffic. This increase in local service trucking is only adding to an already serious urban traffic congestion crisis that is threatening quality of life in one of the West's most popular vacation and retirement centers.

Summary:
Truck freight is what keeps the economy of southwestern Utah alive and vibrant. However, the rapid growth of the St. George area, both in terms of distribution warehousing and industrial development, as well as local construction and service-related trucking, is compounding the region's already serious traffic congestion problems. Inasmuch as economic vitality cannot continue without logistical support, it is imperative that local and state transportation and planning organizations include the needs of the trucking industry in all areas of planning and project development.

Ridesharing

Ridesharing modes such as carpooling, individual, and corporate vanpooling, can make significant strides on removing single occupancy vehicle trips from peak hour travel demands in Dixie. The MPO, in cooperation with other partners has supported financial loan program opportunities that businesses and employees can access. Staff of the Utah Transit Authority's statewide rideshare office have worked with local agencies and willing sponsors in making program presentations to MPO partners, local employers and others in cooperation with the Dixie office of the Department of Work Force Services. To date no vanpools programs available statewide have been implemented in the Dixie region.

The MPO supports continuing efforts for employers to look at their employees daily commute needs from within the region and to offer the van pool program as an employee benefit and supports efforts of the Washington County Affordable Housing Committee's strategies to deal with low income housing needs.

Park & Ride System

No designated Park and Ride facilities exists today in Washington County, however, some areas are being used, such as, Anderson Junction at MP 27.

During the next four years, MPO staff will look at the feasibility and need for the development of park and ride lots to support transit, van, and car-pooling demand.

3.7 System Management Review

Intelligent Transportation Systems

In 2006, the MPO funded an Intelligent Transportation Systems Architecture Plan for the region. The Plan is in place and projects are flowing from it as funding becomes available. The complete plan is available at the offices of the MPO and the City of St. George Engineering Office and the Utah Department of Transportation Traffic Operations Center in Salt Lake City.

The Dixie Regional Intelligent Transportation System (ITS) Architecture Study establishes a Regional ITS Architecture and Strategic ITS Implementation Plan for the Dixie Region.

The Regional ITS Architecture is required for the orderly and consistent deployment of ITS throughout the Region. The planning process also aligns activities in the Region with those in other regions and at the state and national levels. The Plan serves as a master plan for ITS deployment for ten years and beyond. It will define roles and responsibilities of the various ITS Stakeholders throughout the Region and establish other technical goals to avoid duplication of investments in infrastructure, provide the ability to share data among agencies, and bring the Dixie Region into compliance with nationally established ITS Architecture standards as well eligibility for use of State and Federal ITS funding.

The current Traffic Control Center operated by the City of St. George anticipates an expanded and upgraded facility in the near future. The MPO supports this expansion and encourages the Washington County and City emergency control center (EOC-fire, police and ambulance dispatch) to merge when the expanded traffic monitoring facility comes on line. The TCC is connected to the TOC in Salt Lake and UDOT's region office in Richfield may connect with a terminal by 2008.

The major ITS needs identified by the MPO in consultation with UDOT, The City of St. George, and FHWA can be summarized by two key ITS Goals:

1. Establish eligibility for use of State and Federal ITS funds by completing a Regional Architecture Study.
2. Increase the capacity of ITS to monitor the transportation system, improve traffic flow, and enhance communications.

3.8 Safety & Homeland Security

An efficient transportation system is vital to the coordination of any kind of emergency response. Throughout the region, our mantra has been that together we are stronger and more capable than we are as individual entities. By sharing resources we avoid costly duplication of services and greater redundancy and increased

depth. This presupposes that we will be able to respond throught the region in a timely fashion and with more than one access route. The County is currently in the process of ratifying a new mutual aid agreement between governmental agencies for all of the same reasons as above. Effective and efficient transportation systems are an absolute necessity for a coordinated, cohesive, mutual aid response**.**

Consideration of strategies to address Homeland Security for Utah's Dixie in this early implementation of SAFETEA-LU is limited for a newly designated small-urbanized area, but the benefits will provide a legacy and direction for future RTP updates and system security. The Dixie Regional ITS Architectural Study and its implementation strategies lay the foundation of policy and communications needs. The existence of the Washington County Emergency Management Office for dealing with short and long-term events provides a central place for coordination with local state and federal partners in the event of security, criminal or terrorist acts or emergency events and natural or manmade catastrophes. Projects to enhance system safety and security are presented in chapter 8.

State Safety Leadership Team

UDOT's Office of Traffic and Safety is facilitating an on-going safety plan and strategy in cooperation with many local, regional, state, and federal partners. Each MPO in Utah is a member of this leadership team. This year the most visible project has been the "ZERO Fatalities: A Goal We Can All Live With" program.

The primary program goals and objectives endorsed by the team and MPO boards will rely on education, outreach, and multi- agency partnering to accomplish them. Current Emphasis Areas include increasing use of safety restraints, improving intersection safety, and reducing aggressive driving, distracted driving, drowsy driving, and impaired driving.

Continuing Safety Areas include enhancement of child safety, railroad crossing safety, older driver safety and transit system safety. Ongoing planning to improve pedestrian safety, motorcycle safety, younger driver safety, and rural road safety will be coincided with increasing work zone safety and promoting safer truck travel. Special areas that may be visited and promoted periodically include enhancement of safety management systems, crash data systems, and emergency services capabilities.

St. George City Accident Data

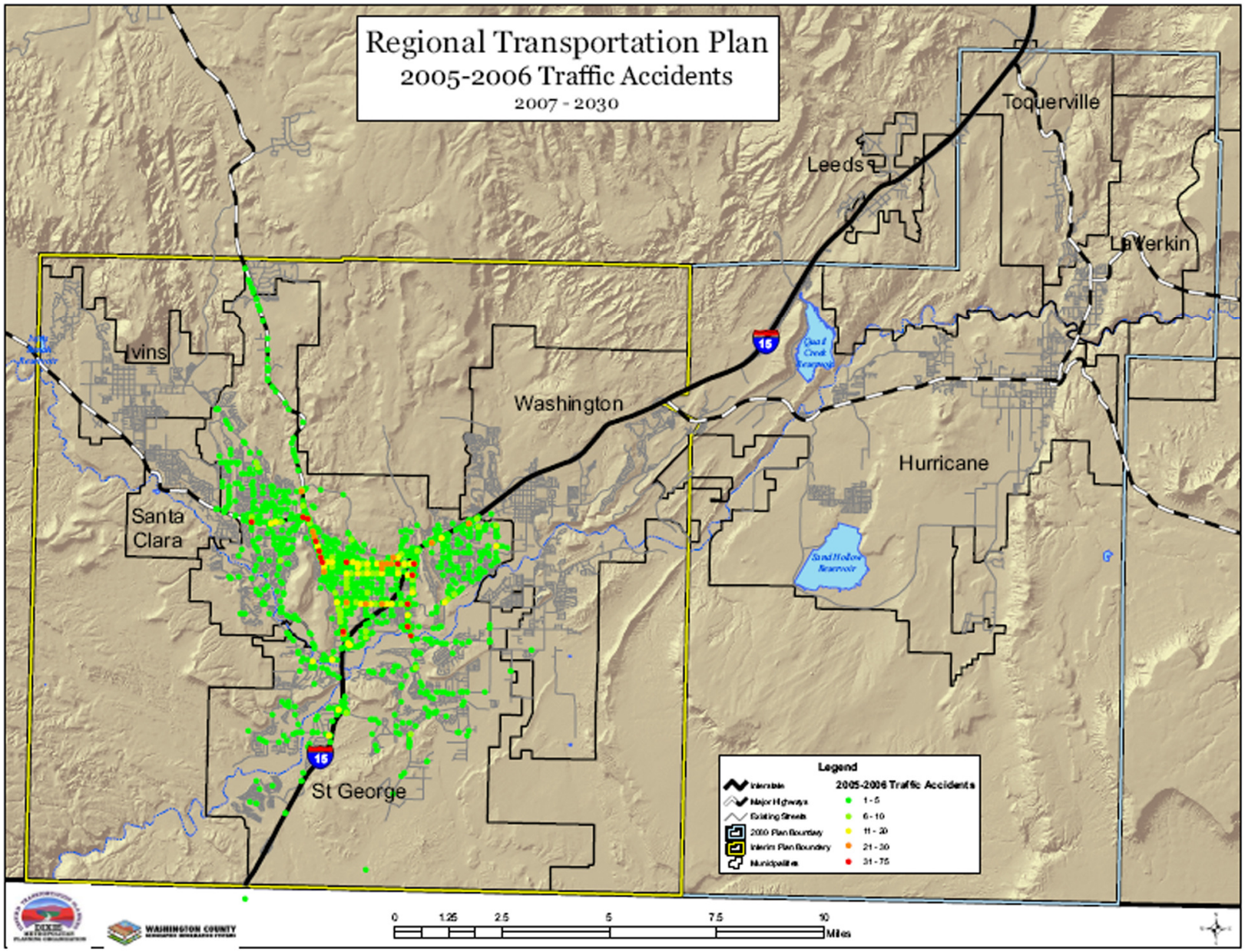
The City of St. George has been collecting accident data for 10 years. The map that follows shows the number of accidents occurring at locations for 2005-2006.

A recent example of safety improvements that mitigated significant pre accident data was the reconstruction of the St.George Blvd. The before an after picture is remarkable on this state route. The MPO supports this type of design action, which improves safety of drivers as well as pedestrians and bicyclists and provides safer turning movements for destination trips into the CBD.

Utah's 2006 Utah Fatalities Data Analysis document provides information about the Washington County share of Utah's 284 fatalities last year:

1. Ranked fourth in all county's share of statewide fatalities at 19
2. Nearly as many Urban as Rural fatalities
3. 3 times as many on State Roads, vs other roads
4. Nearly equal spread amongst common age ranges
5. Twice as many males than females are killed

Accident Data Map



6. More than ¾ are local residents
7. Thanksgiving Holiday is the most lethal
8. Nearly half involve improper seat belt use (none), ranked 5th by counties at 6
9. Over 1/4th are Speed related deaths
10. Pedestrian, Motorcycle and DUI each share 1/8th of the death cookie
11. Most deaths are preventable and have little or nothing to do with the roadway:
    Impaired Driving
    Drowsy Driving
    Aggressive Driving
    Distracted Driving
    Improper Restraint Driving

4 ALTERNATIVE DEVELOPMENT

Being a newly designated MPO, and one with very evident topographical constraints on transportation alternatives, a broad range of alternatives is not yet practicable or needed. However, with the Vision Dixie Process underway and the annual EXPO inputs, and the impressive growth expected in population and traffic congestion, potential for future air quality and conformity issues constraining capacity growth as well, conditions in the future are likely to generate the potential for comprehensive alternative development scenarios and options in the decision making process. This chapter will describe the basic status of the sub elements and efforts to address them, recognizing that as time goes on conditions and data will emerge to fully support a full alternatives analysis process.

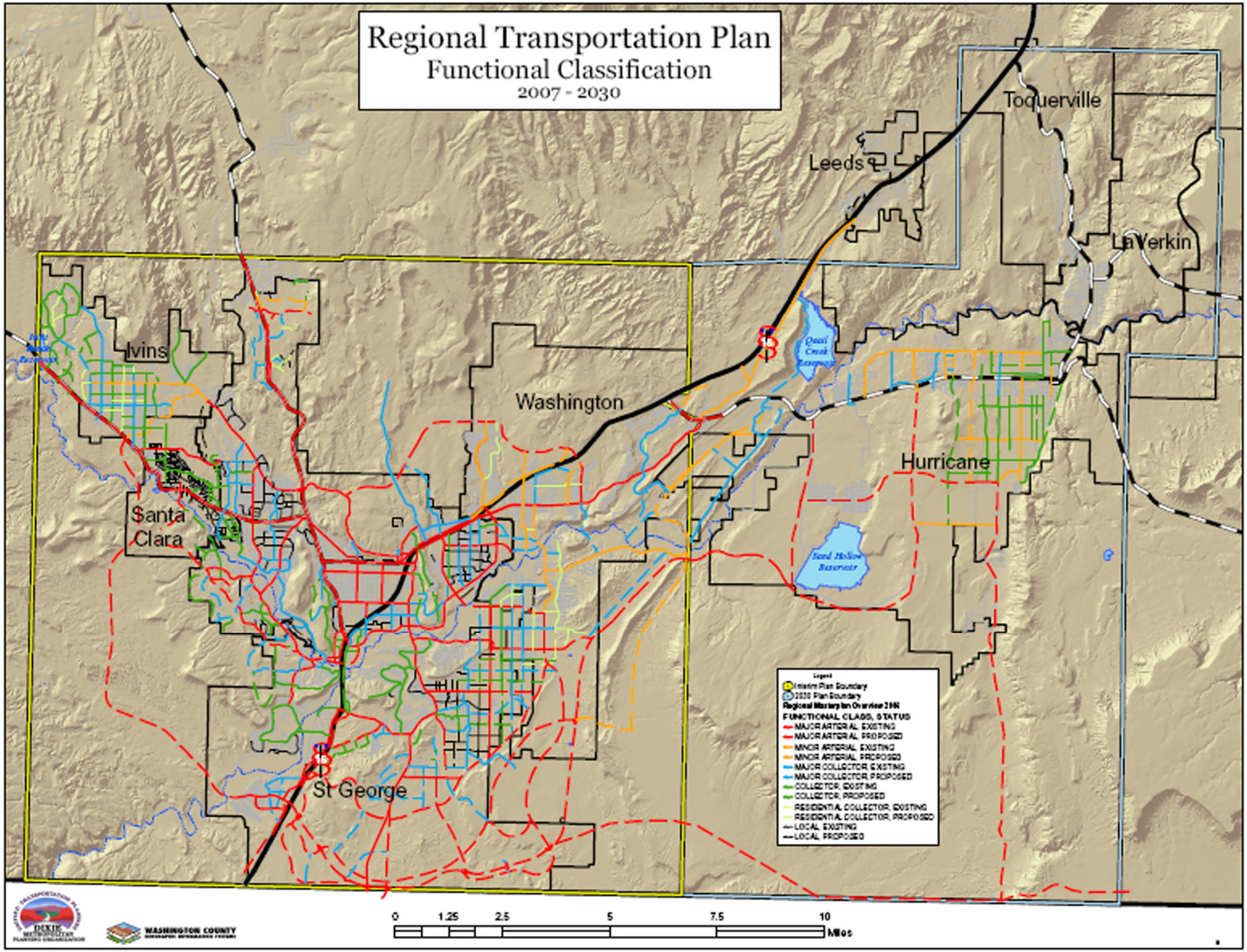
4.1 Functional Classification System

The Dixie MPO area's topographical constraints to capacity building has a direct bearing on the reasonableness of using the federally defined and UDOT's use of functional classification formulas to depict and define fairly adequate numbers and functions of roads in Utah's Dixie. Using percentages allowed for each category seriously inhibits not only funding opportunities but does not account for the finite number of arterials and collectors as the area grows to build out, for example. Defining what is 'regionally significant' in Dixie must include major collectors, which must function as arterials since alternatives simply do not exist. North/South and East/West corridors are limited. Growth in population and traffic will not drive additional corridors that are simply unavailable or not feasible. What is evident is the need for flexibility in applying function to not constrain further the ability of the area to fairly compete for discretionary funds from the state and federal governments. Please see "Functional Classification Map" following.

4.2 Identification of Highway Improvement to Address Needs

Besides the observed congestion that is building during peak hours at key intersections, interchanges and links on the network, traffic modeling of minutes of delay per capita and the volumes expected on the existing and planned network of roads to year 2030 based on projected growth are the indicators being used to guide highway improvement needs. Information on these traffic indicators is illustrated in section 5.2 "Congestion Management."

Functional Classification Map



4.3 Identification of Transit Improvement to Address Needs

Based on the analyses presented in previous chapters, the long-range plan for SunTran services is presented below. As there is a high degree of uncertainty regarding long-term forecasts of funding availability, this plan focuses on general strategies for service:

1. Regional general public bus service during peak periods between St. George and Washington, Santa Clara, Ivins, Hurricane, and LaVerkin.
2. Regional vanpool commuter service.
3. Continuation of ADA services, as augmented to address increases in population and changing mobility needs of the region.

It is expected that fixed-route service will operate in the City of St. George and Washington area while a more general, rural service will be provided to the outlying communities of Santa Clara, Ivins, Hurricane, and LaVerkin, allowing the region as a whole to function as an urbanized area with a consistent transit service. **A copy of the St. George Urbanized Area Short & Long Range Transit Plan is available in the MPO Office.**

4.4 Identification of Pedestrian/Bicycle Improvements to Address Needs

Connectivity

A functional and efficient bicycle and pedestrian transportation network is connected, connected to work; retail centers; community institutions such as parks, schools, post offices, and government offices; transit centers; residential areas, and other facilities affecting daily life. Creating an extensive and well-connected network is essential to ensure that cyclists and pedestrians can move easily throughout their community. The most common journey origins and destinations must be connected as directly, safely, and attractively as possible.

Connectivity occurs on many scales and between differing modes of transportation as well. On the micro scale, there is the link between sidewalks to off-street paths and between off-street paths to bikeways. As scale increases we need linkages from neighborhood to neighborhood and between one city and the next until an entire regional transportation system is holistically, interconnected Guidelines for bikeways based on street classification are contained in table 1.

4.5 Identification of Multi-Modal Alternatives

Regionally, the development of transportation solutions began with the first Southwestern Utah Transportation EXPO, where planning, project development and construction presentations received public scrutiny and comment. The hundred plus comments received can be boiled down into major themes:

1. Growth is coming, lets' plan for the best possible, affordable solutions.
2. Regional routes to by-pass the CBD are needed sooner than later.
3. The Dixie Belt way segments are vital, variations as to priority and alignment.
4. Existing corridors need capacity improvements.
5. Additional crossings of I-15 and the Virgin River are needed.
6. Added capacity and connectivity between St. George and Hurricane areas needed.
7. Bike trails, paths, and stripped lanes need systematic implementation.

8. Public & specialized transit needs improved performance and expansion.
9. ITS deployment to enhance performance of the network, keeping traffic flowing.
10. Intersection optimization is imperative.
11. Light Rail/BRT corridors needed in future.
12. Freight rail connectivity should be explored, trucks are impacting the interstate.

The City of St. George is looking at the feasibility of a multi-modal facility in the vicinity of the Dixie Center, where intercity bus service can mesh with the local transit route network and the pedestrian/bicycle trails system and of a transfer center near the campus of Dixie State College.

5 EVALUATION OF ALTERNATIVES

For purposes of this evaluation network volumes from the traffic demand model projected to year 2030 and estimated costs of identified improvements are used to evaluate the highway, transit and ped./bike recommendations. Safety is also used as a factor in evaluating solutions in this chapter. For the 2011 RTP update the analysis and modeling of Land-Use and Transportation options and scenarios extracted from the Vision Dixie Process, as adopted by the MPO policy body, will be factored into the evaluation process.

5.1 Traffic Demand Modeling of the Highway Network

Traffic volumes on the highway network were calculated by the model to evaluate the effectiveness of the improvements recommended. See Section 5.2.

5.2 Congestion Management

As a small-urbanized area, the Dixie Metropolitan Planning Organization is not required to develop a Congestion Management Plan. However, the DMPO recognizes the value in understanding how project development impacts congestion/delay time. This brief analysis identifies some of the impacts associated with congestion.

There are many ways to describe congestion on a transportation network. For this plan looking at hours of delay on the entire transportation system between year 2005 and 2030, between Ivins and Hurricane, with a build scenario and a no build scenario, provides an indication of congestion reduction over time by building the projects shown as solutions to the identified transportation needs. The 'Projects & Phasing list' above shows that the total costs of phased projects is roughly 1.5 billion dollars. The following tables and charts present the methodology of modeling the hours of travel time on the transportation network:

The "Build versus No Build Network Travel Time" chart shows the total network travel time over the next 25 years. The purple bar represents over 1.3 billion hours if we do not build any projects, just maintain what capacity we have today, the red bar represents just over 800 million hours of cumulative delay if we build the projects. The difference between the build and no build is considered "D" for delay in traffic engineering modeling terms.

The "2030 Daily Travel Times 'A'" table assumes a snapshot in time in 2030. It shows a No Build scenario resulting in 350,000 daily network travel time hours, or a 43% increase in delay above the Build scenario of 244,000 hours of daily travel time. The average link travel time in minutes brings it down to a personal level by showing that an average trip will encounter an average of 1.9 minutes of link travel time versus 1.3 minutes in the Build scenario. A link in the traffic demand model is a section of road between two intersections. Obviously, some links are longer than others, so this is the average of all links in the regional model.

The "2030 Daily Travel Times 'B'" table compares the No Build scenario, separately with 4 individual projects taken from the phased list on page 38, Interstate 15 widening, the Dixie Drive Split Interchange between Bluff and Dixie Drive, the Southern Parkway, and the Western Corridor. Of the four projects selected, the I-15 project reduces the most delay (D) on the network by 76,000 hours, the Western Corridor 43,000 hours, the least, but each has a significant impact on delay reduction on the network.

The "Travel Time Results 'A'" chart compares one additional project to the mix the Southern Parkway to SR-9 in Hurricane, showing the build no build comparison and the cumulative delay per day in hours from 2005 to 2025.

The Travel Time Results 'B'" chart shows the network travel time per year in hours from year 2005 to year 2030 horizon building all projects in the RTP and the no build, staying at status quo.

The "Cost Benefit Analysis" table shows the time saved in hours of the build scenario, (building all projects in the long range plan) assuming two scenarios, hourly delay cost of $5 and of $10, both showing a positive ratio over 1.0, 1.69 at $5 and 3.37 at $10

In summary, managing congestion on a network with limited capacity growth due to topography constraints puts heavy pressure on decision makers to make every attempt to implement the projects in this plan to serve the population and travel demand expected in year 2030. The mix of highway, public and private transit, and bicycle pedestrian facilities needed will help maintain the quality of life and economic growth of Utah's Dixie.

Chart 1 - Build v. No-build Network Travel Time

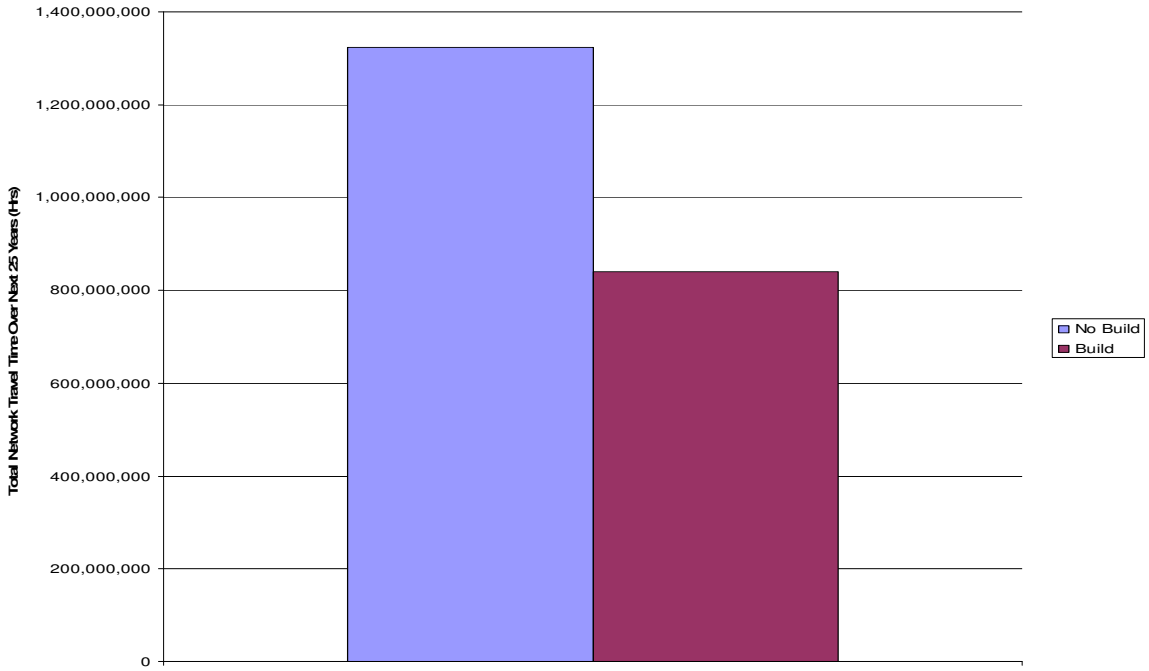


Table 9 - Daily Travel Times 'A'

Condition	2030 Daily Network Travel Time (hours)	Average Link Travel Time (minutes)
No Build	350,000 (+43%)	1.9 (+46%)
Build	244,000	1.3

Table 10 - Daily Travel Times 'B'

Alternative	2030 Daily Network Travel Time (hours)
NO BUILD	350,000
I-15 Widening	274,000
Split Interchange Between Bluff Street and Dixie Drive	279,000
Southern Parkway to Airport	298,000
Western Corridor	307,000

Chart 2 - Travel Time Results 'A'

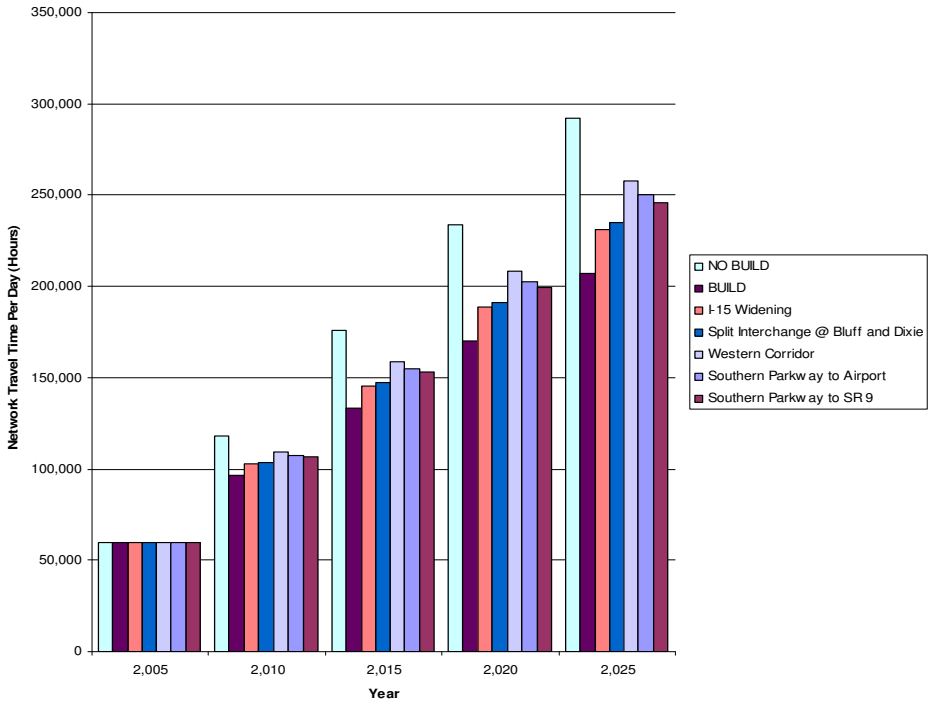


Chart 3 - Travel Time Results 'B'

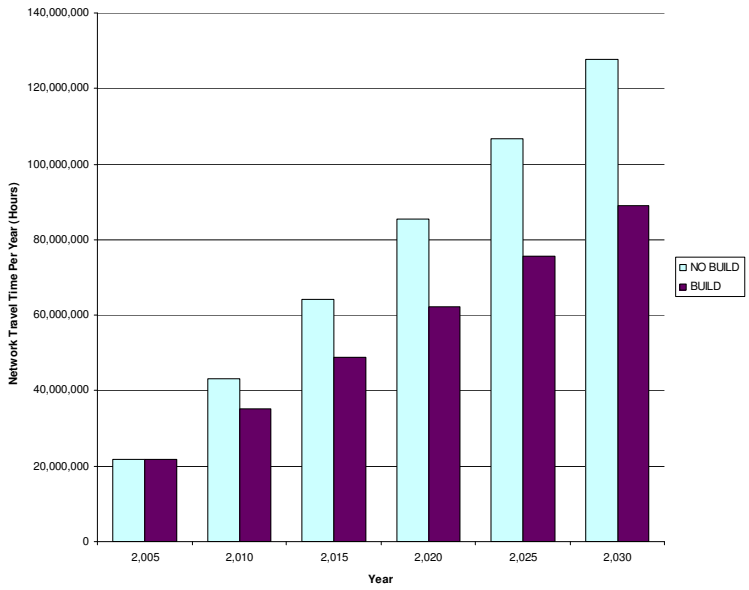


Table 11 - Cost Benefit Analysis

Time Saved (hrs)	Cost Benefit ($5/Hr)	Cost Benefit ($10/Hr)	Total Estimated Roadway Improvement Cost	Cost to Benefit Ratio ($5/hr)	Cost to Benefit Ratio ($10/hr)
483,625,000	$2,418,125,000	$4,836,250,000	$1,434,000,000	1.69	3.37

5.3 Safety/Accident Data

UDOT and City of St. George Accident (see Accident Data Map) and Fatalities data shed some light on priority decisions or at least consideration in plan and project development:
UDOT's data on State Roads for 2006 in Washington County:

Table 12 – Accident Data

Route	SR 8	SR 9	I-15	SR 17	SR 18	SR 34	SR 59
# Fatals		5			2		

5.4 NEPA Principles

Recognizing that when planned solutions reach corridor preservation with broad environmental review, it is not until the Environmental Assessment or EIS stage that detailed environmental analysis of alternatives are done, this Regional Transportation Plan provides a broad analysis of impact, concern, avoidance, or mitigation of the improvements recommendations to year 2030.

Mitigation for impacts to threatened and endangered species will be developed through consultation with USFWS as part of the Section 7 process of the Endangered Species Act. Although complete avoidance of

impacts is preferred, there are times when avoidance is not possible so that impacts must be mitigated. USFWS will issue a biological opinion, which will list conservation and mitigation measures. For other recent projects, such as the Southern Corridor, USFWS required the purchase of habitat preserves to mitigate impacts to Holmgren Milkvetch and Dwarf Bearclaw poppy habitat. Because the project would cross-critical habitat for the Southwestern Willow Flycatcher, it is possible that mitigation for this habitat will also be required. Conservation measures could also be required for wildlife species, such as the Desert Tortoise, that occur in the study area. These measures could include use of special fencing, providing wildlife crossings, restricting construction to specific times of year, and designating special construction methods.

5.5 Public Comments and Input on Recommended Improvements

Citizens have been very visible both, orally and in writing, concerning transportation visioning, planning, project development and system operations at EXPOs, Open Houses, Public Hearings and comments received via email and mail since the MPO was organized in 2002. Their comments and input to the 2020 Plan and this 2030 draft plan are summarized below under most commonly held consensus:

6 PROJECT SELECTION AND PHASING

UDOT and the four Utah MPOs agreed that Major and Minor Arterials, would be considered projects of regional significance for the combined executive summary plan. Projects of regional importance for transit included Bus Ways, Bus Rapid Transit and Light Rail or heavier, such as commuter rail.

Dixie has never had any rail facilities. The closest track/depot is the UP line in Iron County. This plan does not include future rail facilities in this planning horizon of 30 years, but does not preclude its potential feasibility post 2030. The I-15, SR-18 corridors should be planned to host sufficient right of way for future rail connectivity. The impact of motor carrier freight growth projected in the future on Utah's interstate system, in terms of capacity, lane consumption and pavement life, as well as safety concerns, could raise the necessity of rail competition in the movement of goods and services in the future.

Within the region the Vision Dixie Process as well as the current Transit Development Plan recommends a future strategy of Light Rail or Bus Way, or Bus Rapid Transit as viable technology in serving a percentage of the daily trip demands Corridors such as SR-9, Telegraph Road, Riverside Drive, Red Hills Drive, 700 S., Red Cliffs Drive, Sunset Blvd. and Snow Canyon Parkway and north-south corridors such as Washington Fields Rd., Mall Drive, River Road , Bluff Street, and Dixie Drive/Dixie Downs, should be considered in the future.

6.1 Existing Plus Committed Projects

Projects already funded in the current funding year of the Dixie TIP, either from STP or Congressional Ear Marking are considered "Funded Projects" and are shown as such in the Project Phasing List, and Map located in Chapter 8, "Recommended Alternative." The TIP process includes criteria used since 2003, as updated, see below:

Table 13 – TIP Criteria

Criteria	Rating
Is the Concept Report adequate for a complete review?	Yes/No
Is the project in the Dixie Long Range Plan?	Yes/No
Is the project a high local priority and consistent with local plans?	1 2 3 4 5
Strength of purpose and need	1 2 3 4 5
Completeness of right-of-way or real-estate purchase(s)	1 2 3 4 5
Will utility relocations require MPO Funding?	1 2 3 4 5
To what extent is the project regionally significant?	1 2 3 4 5
Does the project promote good access management?	1 2 3 4 5
Does the benefit exceed the cost?	1 2 3 4 5
Will the project remedy a safety issue?	1 2 3 4 5
To what extent does the project affect:	1 2 3 4 5
Mobility?	1 2 3 4 5
Inter-connectivity?	1 2 3 4 5
Circulation?	1 2 3 4 5
Facility usage?	1 2 3 4 5
Level of Service?	1 2 3 4 5
Environment?	1 2 3 4 5

6.2 Highway Project Selection Criteria

Volume to Capacity Ratio

Traffic Volumes and Delay data are the main engineering outputs from the traffic demand model that assist the Dixie MPO Technical Committee and Policy Body in deciding project priorities and funding, in the Long Range Plan and TIP. The policy body also takes into account public comments obtained through the public involvement process.

6.3 Transit Project Selection Criteria

LSC Transportation Consultants professionals, in reviewing the current system and projected population and ridership as well as comparing our area with other transit systems of a similar size, suggest funding for projects based on criteria such as total population; population within the transit service area; passenger boardings by jurisdiction; vehicle service hours by jurisdiction; passenger miles generated by passengers boarding in each jurisdiction; total taxable retail sales; or employment.

6.4 Human Services Transportation Coordination

The Dixie MPO recognizes the value of, and supports efforts to more fully coordinate, the specialized transportation needs of elderly individuals, individuals with disabilities and eligible low-income individuals. In partnership with the Utah Department of Transportation (UDOT) and other local partners, we intend to meet the coordinated planning requirement of the Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy For Users (SAFETEA-LU) for Sections 5310, 5316, & 5317 starting in federal fiscal year 2007.

The State of Utah, United We Ride Work Group has developed a statewide coordinated public transit-human services transportation plan that identifies the transportation needs of individuals with disabilities, older adults, and people with low incomes, provides strategies for meeting those needs, and prioritizes transportation

services for funding and implementation. As the agency responsible for transportation planning in the St. George Urbanized Area, we will develop a local plan that will be part of the statewide coordinated plan. We will collaborate with UDOT on the competitive selection process to select projects that will be funded by FTA Sections 5310, 5316 and 5317 funds. Additionally, we will facilitate the inclusion of projects proposed for funding to be listed in the Transportation Improvement Program (TIP) and the Statewide Transportation Improvement Program (STIP), which may include specific projects or more aggregated program level information.

6.5 Non-Motorized Project Selection Criteria

A portion of a draft 'guide', put together by the Washington County Bicycle/Pedestrian Committee, includes the following statements of primary criteria, from greatest to least, to prioritize projects:

With numerous bicycle and pedestrian facility needs, projects should be rated based on a set of criteria. Ratings would be based on the degree to which projects meet the criteria.

1. Connects to major, city-wide destinations
2. Improves access to city-wide destinations OR connects to area-wide destinations
3. Connects to local destinations OR improves access to area-wide destinations
4. Provides indirect access
5. Does not provide access

6.6 Illustrative Non-Funded Projects

Projects shown in Chapter 8 "Recommend Alternative" as unfunded, sometimes called "Illustrative" can be projects with anticipated need beyond the 30 year planning horizon of this 2007-2030 Plan, or projects with no committed funding at this time but could be moved into Phase 1, 2 or 3 as need is determined or funding becomes available.

6.7 Functional Road Classification System

The Utah Department of Transportation, in compliance with Federal Highway criteria, determines with local input, the Functional Classification System and manages the process, which includes updating based on growth of urbanized areas. With the rapid growth in Utah's Dixie and the topography constraints on capacity building and corridor alternatives, updates should be undertaken more frequently. The classifying system is based on allowance of percentages of Arterials, Collectors and Residential streets which works ideally in flat land conditions, but may not fit Dixie's unique physical and manmade barriers. We have many collectors that function as arterials but are not receiving the higher classification due to percentage constraints in the methodology. This fact impacts funding opportunities as well as determination of jurisdiction and maintenance responsibilities.

6.8 Phasing of Transportation Facilities

UDOT, and the four MPOs agreed that for this 2007 to 2030 long range planning coordinated effort would phase the planned projects to meet the identified needs according to the following:

Phase 1, 2007 to 2015; Phase 2, 2016-2025, and Phase 3 from year 2026 to 2030. For Illustrative, (unfunded) projects the estimated costs are calculated on current costs, for all other phases the costs would be projected at the middle of each phase. The entities also agreed to use common financial assumptions to reach the project costs which essentially is the length of the project, times the number of lanes, times the middle of the phase cost factor for a standard right of way width. The table below summarizes the Assumptions:

Table 14 – Phasing Assumptions

Right of Way (ft)	Cost per Lane Mile
60-66	$5,500,000
80-86	$6,300,000
100-110	$7,300,000
125-150	$8,300,000
Interstate	$50,000,000

7 FINANCIAL PLAN

The Utah Department of Transportation, and Utah's Four MPOs, at the encouragement of the State Legislature, have joined together in developing a unified approach to presenting the regional transportation plans for each agencies jurisdiction and 2030 planning boundaries. This RTP financial plan includes development of common financial assumptions, including inflation rates for projected revenues, and estimated construction and rights- of -way costs for planned projects that meet identified transportation needs.

7.1 Financial Tools Available

Various Federal, State, and Local Fund options are available to MPOs and are shown in the table below at 2007 levels with an inflation rate of 4% to year 2030.

Table 15 – Financial Projections

REGIONAL TRANSPORTATION PLAN FINANCIAL PROJECTIONS *in $ millions*	2007-2015	2016-2025	2026-2030	TOTAL 2007-2030
Revenue				
Total Federal Revenue	$2,411	$3,280	$1,900	$7,592
Total State (Fee) Revenue	$3,684	$7,293	$5,702	$16,679
Net TIF and CHF	$2,153	$7,120	$5,073	$14,346
Total Revenue	**$8,248**	**$17,693**	**$12,675**	**$38,616**
Outside Expenses/Transfers				
Federal Transfers (MPOs, JHC, CHF)	$448	$600	$348	$1,396
State Transfers (Parks, Corridor Preservation, B&C, etc.)	$1,387	$2,314	$1,631	$5,332
UDOT Operations	$1,632	$2,189	$1,268	$5,089
Total Available Revenue	**$4,782**	**$12,589**	**$9,428**	**$26,799**
Expenses				
Contract Maintenance	$547	$968	$693	$2,208
Signal, Lighting, Barriers, Contingencies, etc.	$187	$331	$237	$756
Bridge Maintenance and Rehabilitation	$249	$441	$316	$1,006
Highway Rehabilitation	$608	$1,076	$770	$2,453
Safety, Hazard Elimination, Enhancements	$146	$258	$185	$589
Non-Historic Preservation and Safety	$1,215	$2,150	$1,539	$4,904
Total State System Expenses	**$2,952**	**$5,224**	**$3,739**	**$11,915**
System Expenses Funded Through Capacity Projects	$457	$1,841	$1,422	$3,721
System Expenses Funded Through STIP Projects	$256	$0	$0	$256
Net State System Expenses	**$2,239**	**$3,383**	**$2,316**	**$7,939**
Net Capacity Funds Available	**$2,543**	**$9,206**	**$7,111**	**$18,860**
WFRC Capacity Funds Available	$1,416	$4,898	$3,641	$9,955
MAG Capacity Funds Available	$475	$1,749	$1,387	$3,611
Cache Capacity Funds Available	$102	$387	$313	$801
Dixie Capacity Funds Available	$150	$663	$597	$1,410
Rural Capacity Funds Available	$399	$1,510	$1,173	$3,082

Federal Formula Funds, which represent only a small portion of an MPOs annual budget, assist MPO planning, environmental assessments and construction seed money for projects that move from the plan to the Transportation Improvement Program. These federal dollars come from FHWA's Surface Transportation Program and FTA's Transit Programs with an approved 2% inflation rate.

State Funds from the State Gas Tax and other sales tax sources are inflated out to 2030 at a 4% inflation rate.

Local Options sales taxes, and vehicle registration fees for use by counties, are estimated to grow at the rate based on increase in sales tax and number of registered vehicles.

7.2 Selection of Financial Options

Key financial assumptions for the Dixie Regional Transportation Plan are consistent with UDOT and the other three Utah MPOs:

1. All financial assumptions presented in future year dollar values including inflation.
2. Committed CHF projects complete by 2009, debt service continues to 2020.
3. TIF program replaces CHF program with 8.3% Sales Tax plus 90million ongoing funding beginning 2006 and grown at the growth of Sales Tax revenue.
4. TIF program supplemented in 2011 by replacing $90 million TIF with additional 8.3% Sales Tax (bringing TIF Sales Tax total to 16.6%, equal to the value of automobile related sales tax.
5. State gas tax increased by $0.05 per gallon in 2015 and by an additional $0.05 per gallon in 2025
6. Federal Funds and programs projected to increase at a rate below rate of highway inflation, or 2%.
7. State B&C program projected to continue at present 25% of total fuel tax revenue.

7.3 Projected Transportation Revenues

The following table shows the revenues available by source projected by phase:

Table 16 – Projected Transit Revenues

Dixie Metropolitan Planning Organization 2007-2035 Projected Transit Revenues							
			2007	2016	2026	2030	2035
FTA 07		**5307**	**690,000**	**7,500,000**	**15,800,000**	**19,600,000**	**23,400,000**
SunTran	**Match %**						
Operation match	50/50 m		433,000	4,725,000	9,954,000	12,348,000	14,742,000
Enh/PM match	80/20 m		257,000	2,775,000	5,846,000	7,252,000	8,658,000
SunTran	**Match**	**5309**					
Fac./Bus*	80/20 m		850,000	9,300,000	20,600,000	24,100,000	28,800,000

Table 17 – Projected Enhancement Revenues

Dixie Metropolitan Planning Organization 2007-2035 Projected Enhancement Revenues						
Source	**Match %**	**2007**	**2016**	**2026**	**2030**	**2035**
Award	**30***	$500,000	$5,200,000	$11,000,000	$12,500,000	$14,000,000

7.4 Projected Transportation Expenditures

See “Project & Phasing List” for total expenditures

8 RECOMMENDED ALTERNATIVE

8.1 Overview of Transportation Recommendations

This chapter presents highway, transit and trail/pedestrian projects as solutions to the needs described earlier the RTP. Highway projects are phased with the first phase from year 2007 to 2015, the second from 2016 to 2025, and the third from year 2026 to 2030. An unfunded phase goes to year 2035 for purposes of illustrating needs that may be needed but do not have funding identified.

8.2 Recommended Highway Improvements

A variety of transportation projects have been identified using the methodology outlined in this plan. Projects range from highway widening to bridge and overpass construction, as well as proposed new corridors. Additionally, UDOT projects within the MPO 2030 planning boundary, but outside the Urbanized Area boundary are shown on the project map but not the project list. These projects are not shown on the project list because they are also included in an area characterized as Small Urban & Rural and which are covered as UDOT projects. See the following table and map for detailed location and cost estimates.

Projects & Phasing List

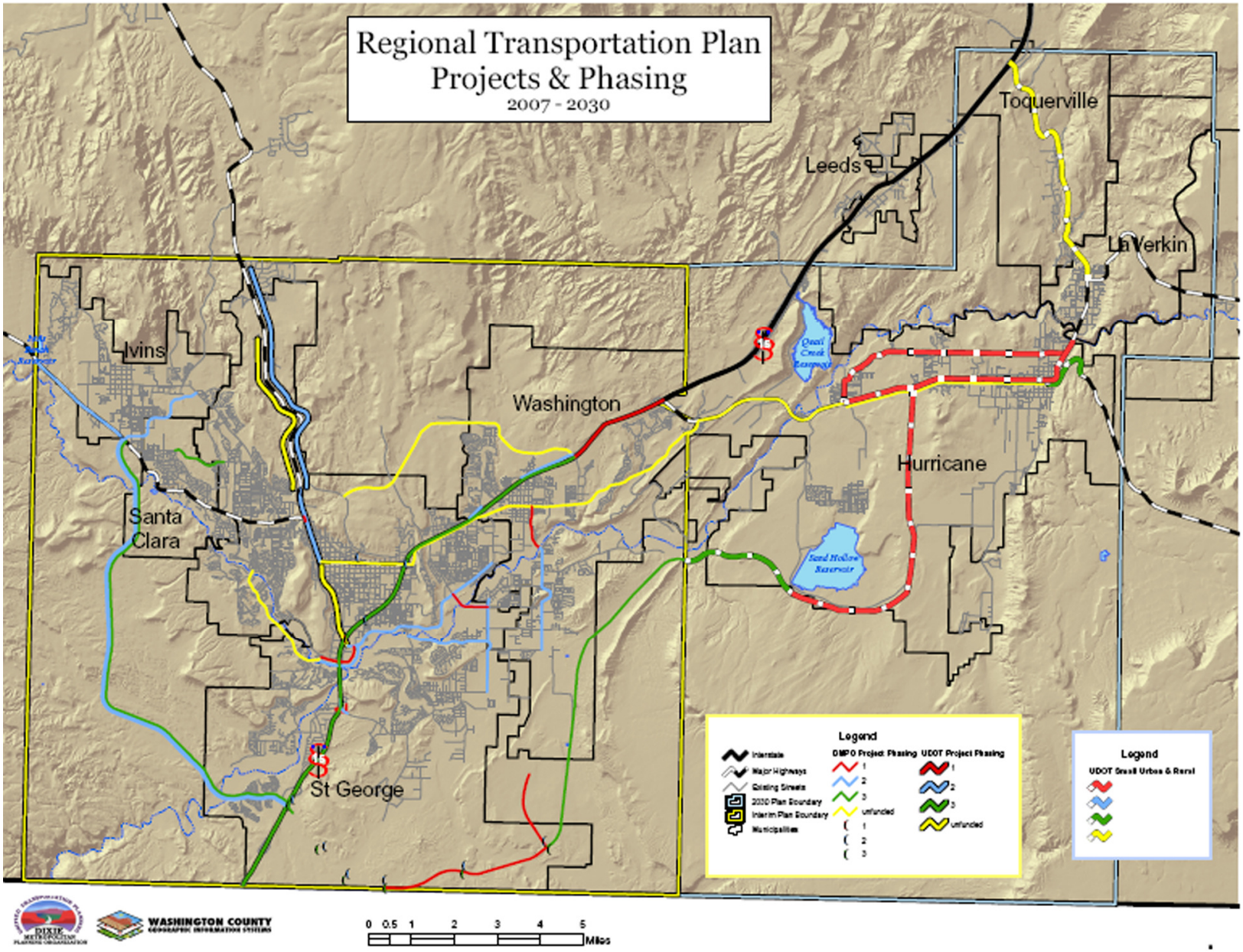
Regional Transportation Plan
Proposed Projects & Phasing
2007 - 2030

ID	Route	Length	Project Name/Location	Project Concept	Interchange or bridge	Estimated Cost Per Lane Mile	Added Lanes	Locally funded Possible Phase	Estimated Cost + 4% inflation
	Phase I								
H-12.01	15	1.00	I-15 (SG) Dixie Dr. Split Interchange-C&D Roads & Dixie Drive Ext.	New Construction	30,000,000				37,230,000
H-13.01	15 &	1.00	Brigham Rd. Round-a-bouts, (SG) (MP 4) & Frontage Rd	Reconstruction	5,000,000				6,205,000
H-10.01	18	1.00	SR-18 (SG), So. Bnd Flyover at Sunset Blvd	New Construction	10,000,000				12,410,000
H-11.01	15	1.00	I-15 (SG) Bluff Interchange at MP 6	Tighten Diamond	15,000,000				18,615,000
H-22.01	212	1.00	Telegragh Rd. (W), from 500 W. to 300 E.	Widen rd & bridge		$1,830,000	3		6,813,090
H-14.02		4.00	Southern Parkway (SG), River Rd to Airport Interchange	New Construction		$1,830,000	3		27,252,360
		3.00	I-15 Corridor (W), MP13 to MP16	Widening		$2,200,000	2		16,381,200
H-23.01		0.50	300 East (W), Telegraph to Virgin River Bridge	Reconstruction		$1,830,000	3		3,406,545
		1.00	Mall Drive Bridge & legs (SG)	New Construction		$1,500,000	1		1,861,500
H-15.01		2.00	Airport Terminal Rd (SG) to So Pkwy	New Construction		$1,830,000	3		13,626,180
		3.00	Southern Parkway (H), SR-9 to South 3 miles	New Construction		$1,830,000	3		20,439,270
	Phase I Total								164,240,145
						remainder			(14,240,145)
	Phase II								
H-20.01		1.00	Mall Drive Bridge & legs (SG)	New Construction	22,500,000				40,522,500
H-24.01		2.00	Washington Fields Road (W), Virgin River to 3650 South	Widening		$1,830,000	3		19,774,980
H-16.02		0.50	Red Hills Parkway (SG), Green Springs to St. George City Limits	Widening		$1,830,000	3		4,943,745
H-18.01		6.00	Riverside Dr. (SG), Convention Center Dr. to 3050 East	Widening		$1,830,000	3		59,324,940
H-09.01	18	2.00	SR-18 (SG), St. George Blvd. to Red Hills Dr. Intersection	Widening		$1,830,000	3		19,774,980
H-02.01		3.00	West. Corridor North (I), old 91 to Snow Cyn Pkwy	New Construction		$1,830,000	3		29,662,470
H-08.01	18	1.00	SR-18 (SG), Grade Seperated Interchange w / RedHills Dr.	Interchange upgrades	4,000,000				7,204,000
H-01.01	3184	3.00	Old 91, Main St. (I to Shiwit Reservation	Widening		$1,830,000	3		29,662,470
H-25.01		2.00	Buena Vista (W), Main Street to MP 13 (I-15)	Widening		$1,830,000	3		19,774,980
H-12.01	15	1.00	I-15 (SG) Dixie Dr. Split Interchange-C&D Roads & Dixie Drive Ext.	New Construction	45,000,000				81,045,000
H-19.01		2.00	1450 South (SG), River Road to 3000 East	Widening		$1,830,000	3		19,774,980
H-07.01	18	6.00	SR-18 (SG), Red Hills Dr. to Winchester Hills	Widening		$1,830,000	3		59,324,940
H-13.02	15	1.00	I-15 (SG) Brigham Rd. east bnd. Flyover, MP 4 Interchange	New Const.	10,000,000				18,010,000
		1.00	I-15 (SG) Interchange reconstruction at MP8	Reconstruction	14,000,000				25,214,000
		1.00	400 East (SG) Underpass at I-15	New Construction	9,000,000				16,209,000
		1.00	Traffic Control Center (SG) ITS	New Construction	11,000,000				19,811,000
		1.00	Southern Parkway (SG), I-15 to Airport	Interchange upgrades	68,000,000				122,468,000
H-02.02		10.00	Western Corridor (SG), MP 2 to Old US 91	New Construction		$1,830,000	3		98,874,900
H-21.01		2.00	3000 East (SG) 700 South to 2450 South	Widening		$1,830,000	3		19,774,980
	Phase II Total								711,151,865
						remainder			(48,151,865)
	Phase III								
		1.00	Southern Parkway (SG), I-15 to Airport	Interchange upgrades	53,000,000				123,172,000
H-14.03		10.00	Southern Parkway (W), Airport Rd. to near Sand Hollow	Interchange upgrades	6,000,000				139,440,000
H-26.01	15	1.00	Southern Parkway East Bnd Flyover (SG), at MP 2	New Construction	15,000,000				34,860,000
H-02.02		10.00	Western Corridor (SG), MP 2 to Old US 91	New Construction		$2,200,000	3		153,384,000
H-03.01		1.50	Pioneer Parkway (SC), Lava Flow Dr. to Red Mountain Dr.	Widening		$1,830,000	3		19,138,140
		10.00	I-15 Corridor (W), MP13 to MP16	Widening		$2,200,000	3		153,384,000
	Phase III Total								623,378,140
						remainder			(26,378,140)
	Unfunded								
H-17.01		8.00	Great Northern Corridor (SG), Red Hills Parkway to MP 13 (I-15)	New Construction		$1,830,000	3		136,986,480
H-11.01		2.00	SR-18 (SG), St. George Blvd. to Main Street	Widening		$1,830,000	3		34,246,620
		2.00	Dixie Drive, new bridge to Mathis bridge	Widening		$1,380,000	2	1	6,850,320
		4.00	SR-18 (SG), Red Hills Parkway to 4 miles North	Widening		$1,380,000	2	1	13,700,640
		19.00	Bus Rapuid Transit Corridor			$2,000,000		*	38,000,000
								*	0
								*	0
									0
	Unfunded Total								229,784,060
	Funded								
		3.00	Southern Parkway (SG), from Interchange MP2 to River Road	New Construction					20,500,000
		2.00	Brigham Road (SG), from River Road to MP4	Widening					13,500,000
		1.50	Snow Canyon Parkway (SG), from Tuweap to SR-18	Widening					15,000,000
		4.00	Red Hills Parkway (SG), from SR-18 to Industrial Road	Widening					39,500,000
		2.00	River Road ext (SG), to Southern Parkway	New Construction					5,520,000
									0

Phase	Timing	Funding
I	2007-2015	$150,000,000
II	2016-2025	$663,000,000
III	2026-2030	$597,000,000
	Total	$1,410,000,000

Total Phases I, II, III 1,498,770,150
remainder ($88,770,150)

Projects & Phasing Map



8.3 Recommended Transit Improvements

According to the Transit Development Plan prepared for the City of St. George and Dixie Transportation Planning Office staff, expansion of the SunTran fleet to accommodate the growth in services by 2030 includes the following:

1. SunTran and regional transit fleet will increase to a minimum of eight vehicles (excluding non-revenue vehicles).
2. Approximately 16 additional vehicles will be required for the regional vanpool commute service, and
3. Five for expansion of Dial-a-Ride and social service transportation.
4. Potential need for Bus Rapid Transit (BRT) route beginning at the intersection of Bluff Street and St. George boulevard then along St. George boulevard to Red Cliffs Drive. The corridor continues along Red Cliffs Drive then through Washington City along Telegraph Street to SR-9 and then into Hurricane culminating near Main Street.

The vehicle fleet will be replaced as necessary in accordance with standard transit industry practice.

In the long-term, the Transit Passenger Facility will need to be further expanded to provide space for regional bus service. The expansion of services and increased need for coordination of routes will make an improved transit center in St. George the key transit facility in the regional network. A minimum of two additional bays will be necessary in order to accommodate an inter-regional transit system. Optimally, this facility would also be shared with other public or private uses. For example, it may be worthwhile to allocate space for Greyhound service. Overall, a minimum of eight total bays will need to be available. This facility would optimally provide the Bays for a minimum of eight transit buses at one time, configured so that all movements can be made independently.

8.4 Recommended Other Transportation Improvements

Bicycle, Pedestrian, and Trail

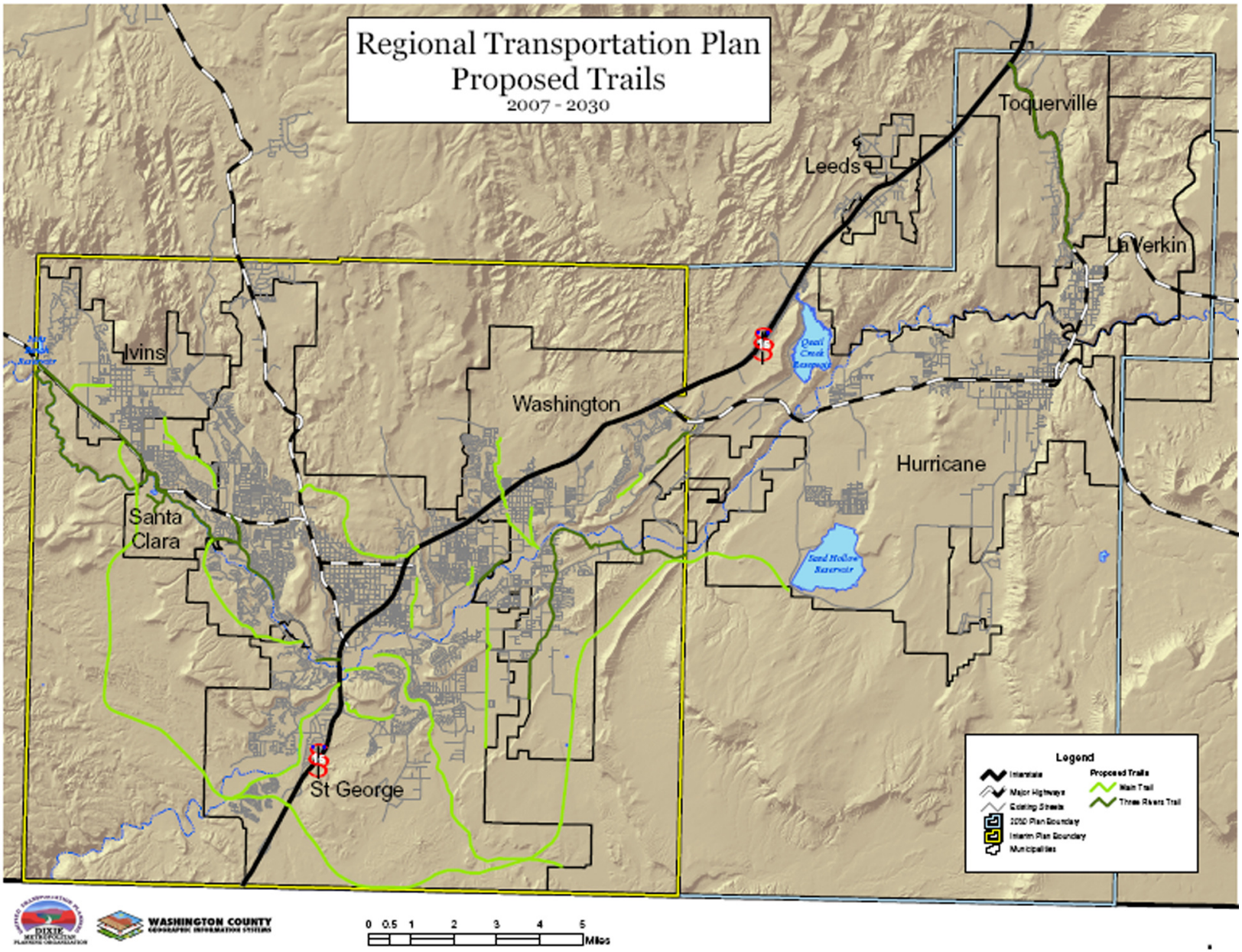
The Dixie Bicycle and Pedestrian Committee has made the following project recommendations to meet the identified needs described earlier in this plan:

Please see “Trails Project List” & Trails Project Map” following.

Table 18 – Proposed Trails Projects

Project Name	Miles	Trail Type	Agency
River Trail	3	Three Rivers Trail	Bureau of Land Management
Churchfield/Center Street Trail	1.07	Main Trail	Ivins City
Old Highway 91 Trail	3.44	Three Rivers Trail	
Cove Wash Trail Connector	.99	Main Trail	Santa Clara City
Knoll Pasture Trail	1.32	Main Trail	
Lava Flow Trail	1.56	Main Trail	
River Trail Connector	2.75	Three Rivers Trail	
Old Highway 91	1.02	Three Rivers Trail	
Santa Clara River Trail A	2.09	Three Rivers Trail	City of St. George
Santa Clara River Trail B	.63	Three Rivers Trail	
Sand Hollow Wash Trail C	1.37	Three Rivers Trail	
Tonaquint/Green Valley Trail North	.48	Three Rivers Trail	
Tonaquint/Green Valley Trail West	4.06	Main Trail	
3000 East Trail	3.9	Main Trail	
Slick Rock Trail	.77	Main Trail	
Rim Rock Trail	1.16	Main Trail	
Virgin River North Trail A	1.42	Main Trail	
Virgin River South Trail B	1.74	Main Trail	
Virgin River South Trail C		Main Trail	
Fort Pearce Wash Trail A	2.8	Main Trail	
Fort Pearce Wash Trail B	2.16	Main Trail	
Fort Pearce Wash Trail C	4.24	Main Trail	
Webb Hill Trail North	.43	Main Trail	
Webb Hill Trail South	2.52	Main Trail	
Southern Corridor	4.74	Main Trail	
Red Hills Drive Trail	4.5	Main Trail	
SR 17 Trail	5.17	Main Trail	Toquerville City
300 East Trail	1.02	Main Trail	Washington City
Canal Trail	7.71	Three Rivers Trail	
Millcreek Trail	2.99	Main Trail	
Coral Canyon Lake Connector Trail	.84	Main Trail	
Telegraph Trail	1.04	Three Rivers Trail	
Southern Corridor Trail	10.23	Main Trail	Regional
Western Corridor Trail	11.73	Main Trail	

Trails Project Map



Regional Freight Movement

Highway Projects listed in the section above, within the Dixie 2030 planning boundary, having direct benefit to truck flows and safety enhancement include the following:

1. Enhance/redesign MP 4 Round-a-bouts and Frontage Rd accessing the Flying J. (Underway)
2. Encourage relocation of Flying J or add additional Truck facilities at MP 2
3. Modify MP 8 & 10 interchanges and legs to improve truck movements (Study underway)
4. Add passing lanes (capacity) on I-15, SR-9, 18, 17, and 59 at appropriate locations (grades)
5. Look at feasibility of connecting the Hurricane So. Parkway directly to I-15 with a new corridor

8.5 Transportation System Improvements

Enhancements

The MPO will continue to coordinate with UDOT, the Dixie Bike/Ped Committee and local city sponsors supporting projects that provide bike/ped. Trails/system connectivity, landscaping and other streetscape improvements as funds are available. Those funds are brought into the Dixie TIP when local projects are approved by the Transportation Commission, annually. Historically the Dixie Region area has received $500,000 to $1M towards such projects during a 4-year period.

Currently unfunded is an Ivins City project called the Church Field Trail Under Crossing at Center St. and Tuacahn Wash asking for $560,000 in Enhancement Funds, plus match.

Safety and Homeland Security

Listed below are Emphasis areas and at least one strategy for each area identified in the Utah Comprehensive Safety Plan and open, ongoing process/document developed by partners from the Utah Safety Leadership Team and agency staff:

Current Emphasis Areas include:	**Strategy**
Increasing use of safety restraints	Support passage of primary safety belt law
Improving intersection safety	Identify unsafe intersection sites
Reducing aggressive driving,	Support aggressive driving mitigation programs
Distracted driving,	Support mitigation efforts
Fatigued driving,	Support a variety of measures to alert drivers
& impaired driving.	Provide DUI awareness material to public

Continuing Safety Areas include:	
Enhancement of child safety	Identify high incident locations
Railroad crossing safety	N/A
Older driver safety	Support improved driver education methods
Bicycle safety	Adopt AASHTO standards for bicycle facilities
Transit system safety	Support Transit system security programs

Ongoing planning to improve:	
Pedestrian safety	Identify high incident locations
Motorcycle safety	Support safety programs for users
Younger driver safety	Support improved driver education methods
Work zone safety	Support work zone safety guidelines
Safer truck travel	Support mitigation measures for high crash areas

Special areas of support:

Safety management systems	Promote an Integrated safety mgmt. process
Crash data systems	Promote a multi-agency data QC and QA standards
Emergency services capabilities.	Support integrated EMS/TCC & safety programs

System Management (ITS)

Regional ITS Architecture is required for the orderly and consistent deployment of ITS throughout the Region. A plan was prepared by ITERIS, Inc. with a final draft submitted in April 2006. The Plan serves as a master plan for ITS deployment for ten years and beyond. It defines roles and responsibilities of the various ITS Stakeholders throughout the Region and establishes other technical goals to avoid duplication of investments in infrastructure, provides the ability to share data among agencies, and brings the Dixie Region into compliance with nationally established ITS Architecture standards.

Projects recommended by the plan are listed here:

Table 19 – Proposed ITS Projects

Short-Term	Mid-Term	Long-Term
Dixie Regional Traffic Control Center (TCC)	CommuterLink Marketing	Weather Warning System
Communications Plan	Computer Aided Dispatch Integration with CommuterLink	Northern Parkway Corridor – Phase 2
Emergency Automated Vehicle Location	Dixie Regional Emergency Operations Center (EOC)	Regional Traveler Information
Emergency Vehicle Preemption	Incident Management Strategies	Telegraph Street Corridor
Trailblazers	Incident Response Vehicles	Transit Operations Upgrade
100 South Corridor	ITS Architecture Update	
Bluff Street Corridor - Phase 1	Maintenance Coordination	
Bluff Street Corridor - Phase 2	700 South Corridor	
Southern Parkway Corridor - Phase 1	I-15 ITS – Phase 1	
Southern Parkway Corridor – Phase 2	I-15 ITS – Phase 2	
State Route 9 Corridor	Northern Parkway Corridor – Phase 1	
Sunset Boulevard Corridor	Red Hills Parkway	
	Red Cliffs Drive Corridor	
	River Road Corridor	
	Snow Canyon Parkway Corridor	
	Western Parkway Corridor – Phase 1	
	Western Parkway Corridor – Phase 2	

Access Management

All arterial and major collector roads in the MPO area should be managed relative to access. Due to the significant hills and bluffs, the number of these types of roadways is limited in Dixie. Please see the list of “projects & Phasing” in this plan to determine roadways that should have limited access.

8.6 Possible Future Technologies

Consideration of future technologies to address identified needs may include Bus Rapid Transit (BRT), Alternative Fueled vehicles, and Hot Lanes, HOV lanes and Toll Roads. Feasibility studies would need to be undertaken before decisions to implement. A recent statewide study on highway financing options included Toll Roads, but for Dixie, tolling is not presently feasible.

9 IMPACTS AND BENEFITS

Transportation benefits are numerous. Nearly every social or economic activity involves some form of transportation. Mobility drives the economy. Travel times are significantly decreased with a good transportation system. The delivery of goods and services becomes widespread and increasingly efficient. Unfortunately, along with the benefits come impacts. Land use impacts, vehicle costs, roadway maintenance, project costs, pollution, and accidents are all impacts of transportation. The purpose of this chapter is to provide a general discussion of the process of determining impacts and benefits of projects included in the Dixie Regional Transportation Plan.

9.1 Social Impacts and Benefits

Environmental Justice

The MPO has a strategy for the public involvement program and it is included in the appendix to this plan. We anticipate Census data/ information will be available at the local urban level for modeling for the 2011 update, but until then we have neither the staff resources nor funding to manually determine locations of the elderly, persons with disabilities or persons of low income or to determine with any real accuracy the proximity of those populations to projects in the long range plan or TIP to asses impacts and benefits. However, during the NEPA process as projects receive actual funding and are moving toward construction, environmental justice issues are encouraged to be evaluated in design and engineering of facilities.

Affordable Housing

According to the Bureau of Labor Statistics, nationwide housing and transportation costs are rising faster than incomes. From 2000 to 2005, Housing costs went up 15.4%, Transportation +13.4% and Income only rose +10.3%. Coupled with the trends of metro area populations suburbanizing, faster job growth occurring in suburbs, and gas prices rising, people are going need more transportation choices. The Center for Housing Policy, National Housing Council, identified several policies to consider to help reduce the burden of housing and transportation including:

1. Consider housing and transportation Policy together
2. Encourage infill development
3. Target Employment
4. Contain/connect areas of sprawl
5. Reduce the cost of commuting by car
6. Preserve choice but revisit existing policies and incentives

Rapidly escalating land and building values throughout the Dixie region are making home ownership even more difficult for much of the workforce. Many families who have steady employment in stable sectors such as teaching, law enforcement and medical services cannot qualify for mortgages due to high prices. Many of this clientele may qualify as low or moderate income, but others will exceed the 80% AMI standard. Local

governments in the region are coping with this dilemma by participating in fact-finding task forces charged to develop creative solutions to workforce housing needs.

The Dixie Area Workforce Housing Advisory Committee desires to establish an ombudsman's office to provide a directory and repository of workforce housing information, provide finance information for the development and purchase of workforce housing and to develop and monitor post-development compliance standards. Some of the main goals of the task force are:

1. Develop a directory of workforce housing information
2. Provide timely and meaningful finance information for the development and purchase of workforce housing to consumers
3. Develop post development compliance standards and policing procedures
4. Provide professional planning advice and technical assistance to area communities regarding best management practices in providing workforce housing.

Noise Impacts

Noise impacts are associated closely with transportation improvements. Those impacts will be addressed in detail at the project development stage following NEPA guidelines although they are identified during early corridor preservation studies.

School Crossings

The safety of children walking to school is a major concern for parents, school administrators, and public officials. Utah state law requires each elementary, middle, and junior high school to create a child access routing plan to outline and address community concerns about walking routes. To facilitate this the Utah Department of Transportation (UDOT) has created the Student Neighborhood Access Program (SNAP).

The process of creating a SNAP Plan is a cooperative effort between parents, school officials, community councils, local jurisdictions, police, and UDOT. Proper implementation of a routing plan will help ensure that road safety initiatives at schools reflect current safety needs.

Future Land Use

The way land is used is a main determining factor in the success of a region's transportation system. A dense, compact development pattern is more economical in terms of infrastructure, land usage and initial development costs. Compact development tends to lead to higher public transit use and encourages pedestrian activity.

Safety and Homeland Security

Transportation systems that improve communications and traffic flow and reduce congestion can only improve mobility, access, evacuation, and communication during catastrophes of widespread regional significance.

9.2 Economic Impacts and Benefits

Economic Development and Redevelopment

A well-designed transportation system improves the economy by making goods and services easier to transport and more convenient to attain. There is a correlation between convenience and the amount of goods and services sold. A solid transportation infrastructure is vital to a strong economy.

Quality Growth

Vision Dixie, a process involving the general public of Washington County will help to explore the best ways for Dixie to change over the next 30 years. Through a series of public workshops, attended by more than 1200 citizens of the Dixie Region participated and will participate over the next several years to assist local government to learn the most broadly supported ideas for how Washington County should grow, develop transportation solutions, and conserve environmental resources. The Washington County sponsored process will also assist and give broad direction to the long-range transportation planning process.

9.3 Public Health and Transportation

Society's movement towards more and more technology to ease physical labors of the past to accomplish tasks, and our time increasingly spent sitting with computers and TV's rather than playing or exercising, combined with poor eating habits, is leading to an alarming increase in obesity, even amongst children.

Transportation decision making should not forget to consider the need for human exercise and labor to maintain a healthy people while deciding on best transportation fixes. Transit and bicycle friendly solutions, safe routes to schools so parents don't need to drive their kids to school, development of smart growth communities and other policy actions to reduce trips and to slow the growth in pollutants which affect human health are key to addressing this health and transportation linkage and encourage children and adults to be active rather than sedentary.

This 2030 plan includes projects that will keep traffic flowing thus reducing congestion which can lead to increased auto pollution. Resource agency and land use managers are increasingly looking at and implementing smart growth developments and other growth policy as the area builds out to include more mixed density development and more independent self reliant communities to reduce trips into the Central Business District (CBD). Communities are on board to improve bicycle and pedestrian access, connectivity and mobility and linkages with existing and future transit expansion as they work with developers.

9.4 Elasticity of Gasoline Prices

The Dixie MPO supports future legislation that will tie the price of gasoline and gas taxes to the consumer price index, so that incremental adjustments can be made yearly rather than at the spontaneous whim of the political arena which is very unpredictable and continues to force society and institutions to plan poorly, to play catch up rather than create an environment of prevention, early preparation and planning to meet transportation needs in a timely way.

9.5 Environmental Impacts

The Dixie Regional Transportation Plan was developed in an effort to meet the transportation needs of the Dixie Region in the year 2030. Transportation projects such as transit, highway/road, and trail networks all will have positive and negative impacts on both the physical and societal environment. The Dixie MPO establishes steering and stakeholder committees to guide early corridor planning studies. Those committees are comprised of resource agencies, land managers, environmental groups, developers and others. Impacts and benefits of transportation projects are considered by these teams related to:

Air Quality

Without proper planning the Dixie Region may become a non-attainment area as defined by the Clean Air Act. Currently we are considered an attainment area with no state regulatory air quality monitoring. Transportation planners need to plan for viable transportation alternatives that reduce personal automobile dependency so that the Dixie Region will continue to benefit from clean air. The MPO has a strategy for protecting our air quality (see Appendix *).

Farmland impacts

Preservation of farmland is important in maintaining the character of the Dixie Region. Farmland preservation is one of the components that adds to the quality of life in the Dixie Region. Farming is becoming a difficult way of life to maintain in Dixie due to shrinking availability of land and incentives to sell and give way to development. Incentives for jurisdictions to protect and preserve farm environments may not be strong enough to overcome market forces that are driving the growth in population here in Dixie, which is consuming the land for commercial and residential use.

Fish and Wildlife Impacts

The following table presents federally threatened and endangered species, State sensitive species found throughout the Dixie Region:

Table 20 - Federal Threatened and Endangered Species, State Sensitive Species With Suitable Habitat in Study Area

Common Name	Scientific Name	Sensitive Status Federal	Sensitive Status State
Plants			
Dwarf Bearclaw poppy	*Arctomecon humilis*	Endangered	—
Holmgren milkvetch	*Astragalus holmgreniorum*	Endangered	—
Shivwits milkvetch	*Astragalus ampullariodes*	Endangered	—
Siler Pincushion cactus	*Pediocactus sileri*	Threatened	—
Birds			
Southwestern willow flycatcher	*Empidonax trailii extimus*	Endangered	—
California condor	*Gymnogyps californianus*	Endangered	—
Bald eagle	*Haliaeetus leucocephalus*	Threatened	—
Mexican spotted owl	*Strix occidentalis lucida*	Threatened	—
Yellow-billed cuckoo	*Coccyzus americanus occidentalis*	Candidate	—
Greater sage grouse	*Centrocercus urophasianus*	Candidate	Species of Concern
Reptiles/Amphibians/Fish			
Desert tortoise	*Gopherus agassizii*	Threatened	—
Woundfin	*Plagopterus argentissimus*	Endangered	—
Virgin River chub	*Gila seminuda*	Endangered	—
Gila monster	*Heloderma suspectum*	—	Species of Concern
Arizona toad	*Bufo microscaphus microscaphus*	—	Species of Concern
Western banded gecko	*Coleonyx variegatus*	—	Species of Concern
Mammals			
Kit fox	*Vulpes macrotis*	—	Species of Concern
Spotted bat	*Euderma maculatum*	—	Species of Concern

Source: BLM, Special Status Species Washington County, Utah, prepared by St. George Field Office, October 4, 2005. Letter from Utah Department of Natural Resources, Division of Wildlife Resources, May 16, 2006.

Although these species are identified for long range planning purposes and early corridor preservation studies detailed investigation of impacts, avoidance, or mitigation will be addressed at the NEPA stage of environmental analysis.

Historical/Archeological Impacts

Historical and archeological sites are another component that is hard to measure, but adds to the character and quality of life in the Dixie Region. Avoidance, mitigation, and restorations are options to consider as planned solutions reach the environmental analysis' phase.

Although the Dixie Region has not been completely surveyed for archaeological resources, the area is likely to contain numerous archaeological sites.

The ancestral Southern Paiute are believed to have moved into this region sometime between AD 1000 and 1300. They were hunters and gatherers who practiced a seasonal round of resource collection and processing over a broad and diverse landscape. In southern Utah, however, some Southern Paiute groups became small-scale farmers and diverted water from the Virgin and Santa Clara Rivers and other smaller streams to cultivate garden plots. Euro-American explorers to this region, including Dominquez and Escalante in 1776 and Jedidiah Smith in the 1820s, reported seeing irrigation ditches and small check dams constructed by the Southern Paiute to divert water from the rivers and streams onto their fields of corn, beans, and squash. A Southern Paiute site, located on private land near the study area, was excavated by archaeologists from Brigham Young University in the 1980s. This site contained evidence of maize cultivation that dated to AD 1700 and 1830 (Allison 1988).

As part of the NEPA process, consultation will be required with Native American tribes that may have an interest in the study area. Final determination of tribes to include in the consultation process will be made during the NEPA process. The tribes with interest in the study area include the Hopi Tribe; the Navajo Nation; the Paiute Indian Tribe of Utah and its Shivwits, Cedar, Indian Peak, and Kanosh Bands; the Uintah/Ouray Ute; the Las Vegas Paiute; the Moapa Paiute; and the Kaibab Paiute.

Few surveys of historic resources have occurred within the study area. Historic resources in the study area relate to the 18th and 19th century Euro-American explorations. In 1776, two Franciscan priests from New Mexico, Dominquez and Escalante, traveled through southern Utah looking for an overland route to the Spanish colonies in California. This travel route came to be known as the Old Spanish Trail. The main branch of the Old Spanish Trail followed the Santa Clara River south from Mountain Meadows and then veered to the west over the low pass of Utah Hill (old Highway 91). In 2001, the Old Spanish Trail was designated as a National Historic Trail.

By the early 1850s, the first colonies were being established by members of the Church of Jesus Christ of Latter-day Saints (Mormons) in southern Utah. Some of the structures built by these colonies may be found in the study area; these structures include irrigation systems along the Santa Clara and Virgin Rivers and sites associated with stock animals.

Geologic Hazards

The geologic diversity within the State of Utah is well known and much of that diversity and topographical constraint exists in Dixie. The region is not immune to earthquakes and landslides. The MPO encourages transportation solutions to take in to account the known geologic hazards in plans, designs, and construction to prevent, avoid, or mitigate as much as possible current, ongoing, and future geologic events.

Waterbody and Floodplain Modification

Washington County in cooperation with FEMA and other agencies has produced an updated flood-plane plan to deal with the aftermath of the January 2005 Flood in Dixie and to prevent and control floodwaters in future significant storm events. This plan is referenced in the Appendix of this document and is available at the offices of Washington County. Transportation needs solutions/projects must be planned designed and built with these requirements and conditions in mind.

Water Quality Impacts

Water quality can be greatly impacted by the amount of hard surfaces (including roadways) in a region. Hard surfaces lead to polluted runoff instead of the water table's natural percolation cycle.

Wetland Impacts

Wetlands provide an invaluable resource to our ecosystem. Section 404 of the Clean Water Act protects wetlands from development without a permit from the Army Corps of Engineers. Designing the roadways to protect the wetlands in the Dixie Region is in accordance with the requirements of the CWA and leads to a more sustainable community.

9.6 NEPA Principles and Requirements

Integration of NEPA into the RTP Process

While the above elements are important components of the natural and built environment in the Dixie Region, and each deserves their own thoughtful and comprehensive analysis, it is not practical that this be done in this plan. The transportation planning process allows for and even requires this level of analysis in the environmental analysis phase for individual projects where detailed impacts and benefits to the environment are quantified.

Project Specific Recommendations

This plan does not attempt to perform a comprehensive environmental analysis or Environmental Impact Statement as required by the National Environmental Policy Act (NEPA). At this point, projects included in this plan are for planning and modeling purposes only. Some projects amount to little more than a proposed line on a map. It is not intended to identify specific alignments for planned corridors. When a formal proposal is made, the NEPA process will follow.

9.7 SAFETEA-LU Factors

The eight SAFETEA-LU Factors defined in section 1.5 of the Overview Chapter have been considered in the planning process. The projects identified in this plan as solutions to meet the transportation needs of Dixie between now and 2030 address the intent of these important planning factors to encourage the planning process to consider these values in planning and project decision making, thereby helping to meet the transportation needs and maintain the quality of life enjoyed today in Dixie for future generations to come.

9.8 Public Comments and Input on Final Draft Document

148 comments were received during the public comment period via email, the open house (34 people attended) and some hand carried. The majority of comments were focused on the Western Corridor planned alignment. Of the total, 113 comments requested a modification of the alignment to the south of the Sun River Housing Development, 17 suggested an alternative to the present location and 13 merely voiced discontent with the planned alignment.

Two comments suggested overall that the planning process should wait for Vision Dixie process completion before planning roadways.

Two comments suggest more study of the northern corridor alignment as it relates to the Desert Tortoise Reserve.

One comment suggests changing the Bloomington Exit Roundabouts to a SPUI and widening I-15 to three lanes.

One comment suggests continued involvement by all interested parties.

One comment asks for an explanation of abbreviations.

One comment asks to put all UDOT projects on the map.

Main concerns expressed by the comments are:

1. Western Corridor
   Quality of life for Sun River residents (4000 at build-out)
   High-speed road (freeway) v health & safety
   Cuts Sun River in half
   Milkvetch given to much priority
   Traffic Flow
   Environmental impacts

2. Vision Dixie
   Need to wait for results from the Vision Dixie process before completing this planning process.

3. Desert Tortoise Reserve
   A road is prohibited inside the HCP.

Response to Comments

1. Western Corridor
   A study was conducted and concluded by Interplan Co. in November of 2006, which identified several alternatives for evaluation to the location of the Western Corridor. The study identified, through analysis and public involvement , a preferred corridor which extends through SunRiver Development was selected. That plan is available for review. At design stage for this project all the issues brought out by the commenter's will be addressed through the NEPA and public process.

2. Vision Dixie
   The Vision Dixie process is a planning process as is this Regional Transportation Plan. MPO staff is involved in the Vision Dixie process and has provided input.

3. Desert Tortoise Reserve
   The location of a "Great Northern Corridor" has not been determined at this time. The line shown on the planning maps is intended to convey the need for a roadway to transport area residents from west to east and visa versa.

10 IMPLEMENTATION

10.1 Major Transportation Studies

Utah I-15 Corridor as future Canada/Mexico Freight Corridor

The advent of the North American Free Trade Act created a set of preferential economic relationships among Canada, the United States, and Mexico to strengthen north-south economic, transportation, and telecommunication linkages. The U.S. Congress through the National Highway System Designation Act of 1995, defined this priority corridor and specified I-15 as the route. The St. George Urbanizing Area is bisected by this Interstate route, which carries significant traffic demands including tourist, freight, recreational, as well as local, state, and regional trip needs. The following table shows the estimated 2030 traffic volume and heavy truck share of those volumes on I-15 at various points from south to north in the MPO planning boundary:

Table 21 – Estimated 2030 Traffic Volumes along I-15 Corridor

Locations	So. Of MP2	S. of MP4	S. of MP6	N. of MP13
AADT	50,000	90,000	140,000	100,000
6% Truck	3,000	5,400	8,400	6,000

The truck volumes occurring today on the Dixie portion of I-15 effectively double by 2030. This is an impressive increase to the mix of automobile volumes creating safety and free-flow issues and the need for capacity increases. UDOT Region 4 is planning capacity increases to I-15. The Dixie MPO recognizes the high priority of this corridor and has adopted projects in Phase 1 and 3 of The Dixie RTP, covering improvements from the Utah/ Arizona border to MP 16.

Vision Dixie Transportation, Economic Development, and Land Use Process

In an ideal world, visioning occurs prior to planning, planning prior to design, and design prior to construction. In the real world, these activities may not occur because of various reasons, technological, political, financial, social, lack of resources, etc. The large urbanizing area of the Wasatch Front has only recently completed visioning after years of planning ahead of such a step. Washington County leadership has recognized the need for such a visioning step in the early existence of metropolitan status and the legacy of its implementation will benefit all planning processes in Dixie into the future, not just transportation planning.

The process is underway and the results expected within the next 2 years will have direct and indirect quality input into the Dixie transportation planning process for years to come and the RTP update scheduled for 2011 and all-future updates.

Bluff Street Corridor Study & EIS

The most critical transportation issue in the region and for St. George City, specifically, is traffic congestion at I-15 and SR-18 (Bluff Street). Congestion currently persists throughout most of the day. UDOT completed a corridor study to identify and address the long-term transportation needs and recommended a new interchange at MP 5 and improvements to the Bluff interchange and capacity improvements from Main Street to Winchester Hills.

The Dixie MPO and UDOT are proposing projects in their respective RTPs to meet the issues identified in the study. The Bluff Interchange system is expected to handle the projected 80,000 vehicles per day at year 2035. An environmental assessment CAD X level is anticipated to move the project forward in late 2007.

Dixie Drive Split Interchange and Connectivity

As mentioned in the previous Bluff Corridor study, the construction of a Dixie Drive Interchange at MP 5 on I-15 was recommended to meet future needs and is proposed to be completed in phases. The first phase realigns Dixie Drive and a new overpass at MP 5 connecting with a new road behind the Dixie Center. In future phases, the overpass would connect to I-15 with on and off ramps, and then connect with MP 6 with a series of one-way collector-distributor roads to accommodate the anticipated long-term traffic demand.

Redhills Parkway EA

To handle the projected 20,000 vehicles per day by 2030, assuming a northern parkway sometime after 2030, Redhills EA is underway and with construction costs funded, this facility will expand from two lanes to five, vital to keeping St. George Blvd carrying 45,000 cars per day, as it does today, in year 2030. If a northern parkway is not built shortly after 2030 then Bluff St., The Blvd., and Redhills Drive become seriously congested and will function at level of service below C.

Telegraph Road Corridor Study

This facility, located in Washington City, is a major arterial connecting traffic demands to and from St. George and to and from the Hurricane area. The section within the central business district of the City is under capacity and is a choke point. UDOT is completing a corridor study leading to an environmental assessment to propose adding capacity to the narrow section, including upgrading the bridge near 300 West.

SR-9 and 600 N. Bypass EA

UDOT's corridor and environmental studies of these two corridors involved creating a Hurricane area traffic demand model and helped to justify the need to merge the St. George and Hurricane models into one regional model in the spring of 2007. The projected 2030 traffic projected on SR-9 of 45,000 cars per day raised the need for a bypass of the Hurricane downtown, a narrow section of SR-9. After looking at several options the study concluded that the best options is increasing capacity on both SR-9, but also extending and building a bypass at 600 North from 2450 W. to SR-9 and future north south connectors will be developed, as well.

St. George City Transportation and Master Plan Study

Every ten years this centrum city of Utahs' Dixie urbanizing area revisits a municipal boundary Master Planning effort, looking at public transit and highway needs and implementation strategies. The study is available on the cities' website and is incorporated in this 2030 regional plan by reference. The transit element also presents regional growth strategies to expand transit in the region. With the constraints in Dixie on capacity and corridor expansion transit must be a critical tool in providing a significant share of daily trip needs within the region.

Western Corridor- North Preservation Study

With rapid growth occurring in Ivins and Santa Clara's common boundary a study was completed in 2004 to assist the two cities to preserve a corridor between Snow Canyon Parkway and old highway 91 that would eventually link up with a Western Corridor south corridor preservation ultimately leading to a determination for a future facility that would connect MP 2 on I-15 with Snow Canyon Parkway. This western piece of what is a belt-way around the St. George CBD, will likely function as an arterial and will provide future through trip demands to I-15 thus taking pressure off local collector roads and the main artery of Bluff Street.

Western Corridor- South Preservation Study

Intended to begin upon completion of the north piece described above, this longer section was not undertaken until 2006 as programmed funds were diverted to kick start the Bluff Street Corridor Study by UDOT and City of St. George. The preferred corridor to preserve came from extensive broad evaluation of many possible alignments constrained by topography, environmental sensitive areas, and real-estate development. The future facility could be a key factor in providing fire protection to the habitat and controlling indiscriminate use of the land by providing limited access to trails and other land uses.

Western Corridor EIS

The recommend corridor adopted by the MPO policy board provides the Bureau of Land Management, State Institutional Trust Lands, Santa Clara and St. George, to work together in preserving the corridor to meet future trip demands and allow the network of collectors and arterials to remain at level of service C or higher by 2030. There are no funds to construct this corridor now. As growth continues, an environmental study will need to be undertaken and funds identified. This action may occur as early as 5 years and as late as 20 years from now depending on the rate of traffic growth on the network from Bluff Street westerly.

Great Northern Corridor Preservation Study and EIS

Traffic modeling has projected 40,000 vehicles would use a future facility, driving the need for the Great Northern Corridor to complete the beltway around the CBD sometime after 2030. A corridor study would need to be accomplished prior to an EIS sometime around 2025. Growth would of course dictate the actual start up of such studies. The Washington County Commission and Congressional delegation worked extensively with the development of a Federal Lands Bill that would assist the political reality of placing such a facility in the future through what is a conservation area protecting several plant and animal species. Although this federal initiative was thwarted in 2006 the need for such as facility is paramount to providing a connection to I-15, maintaining traffic flows, and mitigating congestion and possible air quality issues as this region builds out.

10.2 Regional System Monitoring

Systematic monitoring of the transportation network and public transit systems that may be eventually put in place in the region is key to accurately determining needs, and applying the right strategies and solutions at the right time and in the right place. The monitoring required with a rapidly growing population includes roadways, transit routes and bike/ped lanes and trails and how they are functioning separately and in coordination with each other and at what level of service.

Dixie Regional Traffic Demand Modeling

A key tool in providing data for decision makers to consider amongst other factors such as available funding, political will, and regional/community health, is the development and use of a traffic demand model. Although not always necessary in small urbanized areas, a model was established in the mid 1990's and it has been used, improved and applied in regional planning as well as individual corridor and project analysis. Until recently, national parameters included in the model were used to test the behavior of the Dixie network. The future use of the model demands that local empirical data be inputted into the model, replacing national parameters, to more accurately portray the unique conditions of travel demand in the Dixie region. The MPO has approved STP funding to embark on development and implementation of a Model Validation Program starting July 2007. The program will consider Screen line Data Collection, Comparative Ground Counts, Socio-Economic Data Review, Speed Data Collection, Cordon Area Trip Rates, External Station Trip Interchanges, Seasonal Factors, Base Year Model Adjustments, and Long Term Recommendations, per need and affordability.

ITS Traffic Control Center

The City of St. George established a Traffic Control Center in 2004 with connectivity to the Traffic Operations Center in Salt Lake City for backup controlling and monitoring. The City plans to move into a larger Public Works Facility and to expand space, size, and capacity of the TCC at this new location. The goal will be to incorporate the Emergency Management at this same facility.

UDOT continues to systematically provide more technical and personnel support to this rapidly growing area, including planning, project development, and traffic engineering skills and tools. Some positions will be serviced out of Salt Lake, Richfield, Cedar City. The Dixie MPO will continue to encourage UDOT to locate those skills/resources within Dixie over time.

10.3 Plan Refinement Studies

Manpower as well as financial constraints limit the scope of effort the Dixie MPO can exert on addressing all of the SAFETEA-LU and Planning Factors. As the area grows and becomes a large urbanized area (over 200,000-core population more funds are expected to be available to expand staff and commission studies to address gaps and weaknesses in the program and plans. During the next 5-10 years the refinement of the plan will rely on results extracted from of the Vision Dixie Process, annual Dixie Transportation EXPO,

corridor and project studies, and environmental studies that occur throughout the state, region, county and local cities.

10.4 Future RTP Updates

UDOT and all MPOs in Utah agreed to prepare Regional Transportation Plans, advertise and solicit 30 public comment periods, and roll out the individual plans, and the combined statewide-unified plan in coordination and cooperation at the same time and to also revisit and update the plans every four years according to federal planning rules and regulations. This philosophy of working together by using similar financial assumptions and criteria will lay a legacy of decision making for Legislative, state, county and local transportation decision making to meet the needs of a growing statewide population and travel demand.

10.5 Transportation Improvement Program

The Dixie 2008-12 TIP projects or short-range project implementation strategies come from the Regional Transportation Plan of 2007. Prior to this publication the Dixie TIPs were prepared concurrently from 2002 to 2004 with the building of the 2020 Long Range Plan prepared in 2004. This means that all TIP projects, now and in the future will come from solutions identified in the Regional Transportation Plan. This is a recommended TIP and which could change prior to formal adoption.

TIP

Dixie Metropolitan Planning Organization
2007-2012 Recommended TIP

Project Location	Project Concept	FY 2007	2007 Match	FY 2008	2008 Match	FY 2009	2009 Match	FY 2010	2010 Match	CD,2011-2013	CD Match	FA Total	Match Total	Total Cost	Funding Source	PIN #
Bluff Street Interchange	Design Engineering & Construction	$3,100,680	$191,611									$3,100,680	$191,611	$3,292,291	06 IM; PLD	5796
Bluff Street Projet	Environmental			$184,000	$13,361							$184,000	$13,361	$197,361	St. George Urbanized Area	
Bluff Street Improvements	MP0 to MP11	$569,250	$0									$569,250	$0	$569,250	Public Lands Discretionary	4851
Hilton Drive/Black Ridge Drive	Envir./Right of Way/Design/Construction							$188,000	$13,653	$1,256,000	$91,211	$1,444,000	$104,864	$1,548,864	St. George Urbanized Area	5796
Brigham Road Interchange	Feasibility Study	$163,153	$11,848									$163,153	$11,848	$175,000		5110
Brigham Road Interchange	Roundabouts	$1,500,000	$0									$1,500,000	$0	$1,500,000	State Construction (Choke Point)	5110
Brigham Road Interchange	Frontage Road Safety Improvements		$800,000										$800,000	$800,000	St. George City	N/A
Southern Parkway	MP2 to New Airport	$10,200,000	$2,550,000	$3,400,000	$850,000	$3,400,000	$850,000					$17,000,000	$4,250,000	$21,250,000	SAFETEA-LU Earmark	5514
Southern Parkway	New Construction - MP2 to River Road	$1,500,094	$108,929	$266,000	$19,315	$472,000	$34,274	$478,000	$34,710			$2,716,094	$197,228	$2,913,322	St. George Urbanized Area	4780
Redhills Parkway	Improve alignment within right-of-way/Expand to 5 lanes	$12,592,000	$2,119,511	$4,400,000	$754,232	$4,000,000	$716,186					$20,992,000	$3,580,929	$24,572,929	SAFETEA-LU Earmark/2005 Appropriations	4905
I-15; Arizona State Line to Bluff MP6	Asphalt Pavement Rehabilitation	$9,888,900	$611,100									$9,888,900	$611,100	$10,500,000	Interstate Maintenance	3065
I-15; Atkinville Interchange, Washington Co	Design Engineering & Construction	$7,748,509	$1,312,127									$7,748,509	$1,312,127	$9,060,636	2005 Appropriations and $8 M TEA-21	2189
I-15; Atkinville Interchange, Washington Co	Enhancement - Beautification	$400,000	$100,000									$400,000	$100,000	$500,000	Transportation Enhancement	2189
I-15; Dixie Drive Interchange	Planning/Environmental	$1,000,000	$0									$1,000,000	$0	$1,000,000	One Time General Fund	5729
I-15; S of Bluff St to Washington	Preliminary Engineering/Design/Construction MP 0-10	$1,175,008	$64,992	$11,586,040	$713,960							$12,481,048	$778,952	$13,540,000	Interstate Maintenance/HSIP/2006 EM (112)	5379
I-15; Washington to Cottonwood Creek	Asphalt Pavement Reconstruction Add Truck Lane & ITS Improv.	$186,460	$13,540			$21,192,400	$1,307,600			$3,861,380	$238,620	$25,240,240	$1,559,760	$26,800,000	Interstate Maintenance	5381
Virgin River Bridge (Washington)	Increase lane capacity	$4,200,000	$1,050,000	$1,400,000	$350,000	$1,400,000	$350,000					$7,000,000	$1,750,000	$8,750,000	SAFETEA-LU Earmark - Waiting lang/balance	5520
Interchange at MP13, Washington	Interchange - New Construction	$1,822,000	$0									$1,822,000	$0	$1,822,000	Centennial Highway	2520
ITS, St. George City	ITS/ATMS - (INSERT DESCRIPTION)	$150,000	$10,892	$150,000	$10,892	$150,000	$10,892	$150,000	$10,892	$300,000	$21,784	$900,000	$66,352	$965,352	St. George Urbanized Area	6122
ITS, St. George City	ITS/ATMS - (INSERT DESCRIPTION)	$462,500	$0									$462,500	$0	$462,500	06 Appropriations	5907
Knoll Pasture Underpass and Trails	Enhancement - Bike/Pedestrian Path/With 09 Enhancement Prog.					$500,000	$426,000					$500,000	$426,000	$926,000	Transportation Enhancement	
Snow Canyon Parkway	PE and Construction	$1,495,000										$1,495,000	$0	$1,495,000	$1 M 04 Appropriations; $495K 06 Approp.	4859
Snow Canyon Parkway	PE and Construction	$818,216	$59,416									$818,216	$59,416	$877,632	St. George Urbanized Area	4859
Santa Clara Drive, Steetscape Improvements	Enhancement Beautification	$500,000	$125,000									$500,000	$125,000	$625,000	Transportation Enhancement	4036
Santa Clara Drive, Streetscape Improvements	Preliminary Engineering	$318,000	$23,092									$318,000	$23,092	$341,092	St. George Urbanized Area	4036
Santa Clara Streetscape	PE and Construction (2 lane road/add turning lanes at key)	$2,430,000	$607,500	$810,000	$202,500	$810,000	$202,500					$4,050,000	$1,012,500	$5,062,500	SAFETEA-LU Earmark	4036
SR-18; St. George to Winchester Hills	Extend passing lanes N.B. to Winchester Hills	$4,000,000	$0									$4,000,000	$0	$4,000,000	One Time General Fund	5697
SR-212; Telegraph Road (500 W to 300 East)	Environmental	$372,920	$27,080									$372,920	$27,080	$400,000	STP - FLEXIBLE (ANY AREA)	4409
SR-212; Telegraph Road (500 W to 300 East)	Bridge/Road Construction									$9,864,600	$716,328	$9,864,600	$716,328	$10,580,928	STP - FLEXIBLE (ANY AREA)	4409
Virgin Trail Enhancement Phase II	Enhancement - Bike/Pedestrian Path/With 08 Enhancement Prog.			$500,000	$320,000							$500,000	$320,000	$820,000	Transportation Enhancement	
Washington City Bike / Ped Phase I	Enhancement - Bike/Pedestrian Path	$500,000	$305,100									$500,000	$305,100	$805,100	Transportation Enhancement	5166
Western Corridor Snow Canyon Parkway to MP2	Corridor Preservation/Environmental	$79,000	$5,737	$200,000	$14,523							$279,000	$20,260	$299,260	St. George Urbanized Area	4715
I-15 Milepost 8	Study					$186,000	$13,507					$186,000	$13,507	$199,507	St. George Urbanized Area	
MPO Model Validation	Traffic Model Improvements	$100,000	$7,262							$100,000	$7,262	$200,000	$14,524	$214,524	St. George Urbanized Area	

Transit TIP

Dixie Metropolitan Planning Organization
2008-12 Recommended Transit TIP

STP 07	$665K	93.23 % Federal 6.77% Local Match										
				2007	**2008**	**2009**	**2010**	**2011**	**2012**	**FA Total**	**Match Total**	**Total Cost**
FTA 07	**0**	**5307**		**0**	**697K**	**724K**	**753K**	**783K**	**830K**			
SunTran	**Match**											
Operation	50/50 m	0		0	437,000	454,000	472,000	491,000	520,000	2,374,000	2,374,000	**4,748,000**
Enh/PM	80/20 m	0		0	260,000	270,000	281,000	292,000	310,000	1,413,000	353,250	**1,766,250**
SunTran	**Match**	**5309**		**2007**	**2008**	**2009**	**2010**	**2011**	**2012**			
Buses	80/20 m	0		0	450,000	260,000	280,000	280,000	280,000	1,550,000	387,500	**1,937,500**
Fac./Bus*	80/20 m	0		0	1,700,000	600,000	800,000			3,100,000	775,000	**3,875,000**

*Intermodal Ctr. ($800,000) Bus Garage/Facility upgrades (2.3 M)

APPENDICES

Appendix A – 2007-30 Regional Transportation Plan Resolution

RESOLUTION
OF THE
DIXIE TRANSPORTATION EXECUTIVE COUNCIL
APPROVING THE FY 2007-30
REGIONAL TRANSPORTATION PLAN

WHEREAS, the Five County Association of Governments receives financial assistance from the U.S. Department of Transportation for the Dixie Metropolitan Planning Organization to support a portion of its regional planning program for the St. George Urbanized Area, and

WHEREAS, as a condition of receiving U.S. DOT planning funds for small urbanized areas, a long range plan must be prepared at least every five years, and

WHEREAS, the plan includes planning for the St. George Urbanized Area, and assuming the Hurricane-LaVerkin Cluster may be urbanized on or before 2030, includes planning for the Hurricane urbanizing area,

WHEREAS, the Dixie Transportation Advisory Committee has endorsed the 2008-30 Long Range Plan, and

WHEREAS, the Dixie MPO, the Utah Department of Transportation and the other Utah MPO's have worked together to develop a unified approach in conducting the planning process and preparing the long range plans for each agency.

NOW THEREFORE LET IT BE RESOLVED that the Dixie Transportation Executive Council (1) approves the 2008-30 Regional Transportation Plan and (2) certifies that the plan is fiscally constrained.

Suzanne B. Allen, Chair
Dixie Transportation Executive Council
Dixie Metropolitan Planning Organization

May 16, 2007
Date

Appendix B – 2008-11 Transportation Improvement Plan Resolution

RESOLUTION
OF THE
DIXIE TRANSPORTATION EXECUTIVE COUNCIL
APPROVING THE FY 2008-11
TRANSPORTATION IMPROVEMENT PROGRAM

WHEREAS, the Five County Association of Governments receives financial assistance from the U.S. Department of Transportation for the Dixie Metropolitan Planning Organization to support a portion of its regional planning program for the St. George Urbanized Area, and

WHEREAS, as a condition of receiving U.S. DOT planning funds for urbanized areas, a Transportation Improvement Program (TIP) must be prepared annually, and

WHEREAS, the TIP includes 3 years of funded projects and 1 year of concept that are included in the MPO's Long Range Plan, and represent projects of regional significance, including, Highway, Public Transit, ITS and Bicycle/Pedestrian projects, and

WHEREAS, the Dixie Transportation Advisory Committee has endorsed the 2008-11 TIP, and

NOW THEREFORE LET IT BE RESOLVED that the Dixie Transportation Executive Council (1) approves the 2008 Dixie TIP and (2) certifies that the projects included in the first three years are fiscally constrained.

Suzanne B. Allen, Chair
Dixie Transportation Executive Council
Dixie Metropolitan Planning Organization

May 16, 2007
Date

Appendix C – Public Participation

Northwest Dynamics
Providing Success Through Collaboration

Summary of 2006 and 2007
Dixie Transportation Expo

Purpose:
To provide a convenient opportunity for interactive communication among the public and transportation related entities regarding current projects, upcoming projects, planning processes, and general transportation information

Objectives

Community members:
- Gain a better understanding of the amount of work and effort being out forth on planning for and constructing transportation related projects.
- Get to meet and feel connected to the people working on these projects.
- Become informed on the specifics of numerous projects.
- Share their thoughts and learn what other community members think about these issues.

Transportation Planners:
- Gain a better understanding of the issues and concerns Meet and talk with hundreds of community members.
- Learn about the other projects.

Attendance
Over 750 community members attended the 2006 Expo. and over 900 attended the 2007 Expo.

Comment forms / Reception by the public
The comment form responses from both years are attached. Noted below is a sample of the positive comments received – no negative comments about the Expo. were received; 82% of the respondents said they would like to attend an Expo every year; the rest said every other year.

- *Very well organized!*
- *The overall expo was a good idea…it gave the citizen a lot more confidence that traffic was not being ignored for the future.*
- *So much information from excellent displays and very patient representatives.*
- *Good exchange of information & ideas.*
- *Well informed staff at each booth.*
- *Displays & aerial were helpful as well as those staffing them.*
- *Opened a way for the public to express their comments, areas of concern and suggestions for alternate views.*
- *I appreciated the opportunity to see and hear what is being planned*
- *It was nice to meet and voice concerns directly with the "shakers and movers" of our transportation plans.*
- *This was an excellent idea! Do this same format more often.*
- *Experts showing /telling of future plans*
- *Lots of diversity in exhibits.*
- *Please do more of this sort of thing to keep us informed.*

- *It was wonderful to have people explain about different projects & to have an outlet for concerns.*
-

Comment Forms Responses

The first year we provided a comment form that asked for input on the individual projects and the overall event; about 200 forms were turned in. Lori separated the comments by project and distributed them to the individual project managers.

The second year each project had their own comment forms; this did not seem to get as good of a response so we will probably go back to the one form process. The comment form responses from this year are below.

There needs to be two right hand turning lanes from Blackridge Drive onto Bluff going south! See traffic at 5pm on weekday!

Easy solution to ease traffic congestion: Put on ramp to I-15 south by St. George Ford!

Many people will use the southern corridor to get back to St. George. Are the planned roads sufficient to handle the extra traffic?

What happened to the Mall Drive extension out to Washington fields? Very needed, especially with future airport!

Please make I-15 a three lane hwy before it costs too much money.

Betty McFarland- joenbetty42@msn.com
Very Informative.
SunTran- Hope it expands to Sun River in the future. Glad to see its doing so well.
Bloomington Roundabout- Looks like the new changes will fix most of the problems.

Marie Tippets - 3144 Swiss Dr., Santa Clara
Very well done- very informative.

- We appreciate the work already accomplished- St George Blvd- Bluff street and Red Cliffs Parkway.
- Look forward to new airport and other projects to get around the area without having to be in the heavy traffic.
- Thanks for a job well done. Keep up the good work.

Leo R. Scott - lrscottpe@yahoo.com

- This was a very informative presentation.
- There are plans for an extensive bike/walking trail system for the future which is very good and should have continued emphasis. However until funding is available for these many trails, emphasis should be placed on connecting up the existing trails where possible to form loops for bike riding. This emphasis on trail connecting should include heavy coordination between the various municipalities in the area to achieve a less disjoined system.

Marilyn Scott – mscottrd@yahoo.com

- Well represented.
- Nice to have tables, water, snack to write, talk, etc. Thanks
- As a cyclist, I like to see plans for trails and bike lanes in place from the start for maximizing fund use, smooth flow back fitting or unhappy citizens. What happened with the bike lane plans on Riverside

Drive extension going east of River Road? I understand that 300 east (fields road in Washington city) south of Telegraph is going out to bid in the next few months. Is there a plan for 8 foot bike lanes in the design going out to bid? What bike lane or trail plans are in place in front of the Summit Gym (1450 S. I think). The trail ends at River road there and biking to Washington Fields area down that road looks risky until you pass the summit when it widens.

- St. George is a great community to see from a bike – keeps car exhaust down and health up- think of us when you plan roads and remember- "Share the Road" It's the Law!

Deb Barmonde - ptac@dixie.edu

- Very Helpful.
- Is there a place where we can access this info. (flyers, pictures, etc.) after the expo?
- Thanks for all of your hard work! Great visuals and materials. Thanks!

Les Holden – 742 Apode Dr, Washington, UT

- Excellent , worth the trip to get information. Could use more information on trail system in Washington County.

John Hinton – johnhinton@sunrivertoday.com

- It was nice to meet and voice concerns directly to the "shakers and movers" of our transportation plans.
- Has it been discussed or considered to make Plantation Dr/ Dixie Down a larger capacity road? It would alleviate the traffic congestion on bluff Street. Especially if the Bluff Street Interstate modification is moved up several years.

MarDeanne Wahlen – 1604 W. 3640 S.

- I appreciated the opportunity to see and hear what is being planned.
- Please do something constructive with the Brigham Rd. roundabouts. I'd like to see FJ move. Those trucks create a hazard and a bottleneck. Also whatever you can do to alleviate the problems with Wal-Mart traffic would help. I hope you get Exit 2 finished soon so that Sun River doesn't have to use exit 4.

Bonnie Pater – b_pater@msn.com

- Great, good displays, informative people.
- Mall drive bridge: we look forward to this help with traffic relief in our area Washington fields.
- Airport extension: good plans.

H.H. Berry – 1423 Redwood Tree St.

- Brigham road west roundabout re-stripe to include two lanes around and under I-15 east bound, NOW!

Make sure bike/ped trail connects under I-15 and Virgin River trail on another side of bike/ped bridge (after Dixie back road constructed)

The impact fees on new development need to be tripled or more. Give us old timers a break. The new people will use the new infrastructure hence they should pay for it.

This was an excellent idea! Do this same format more often. Experts showing /telling of future plans keep citizens aware of growth issues and proposed solutions! Great!

Larry Deblinger – ldutah@msn.com

- Lots of good information on future projects.
- Is there a plan on making I-15 a three- lane hwy from Utah state line to exit 22 before it cost too much money for land, materials and labor?

Bob Amoroso – (435)674-9649 amorosorm@aol.com

- Informative, but some presenters weren't that open to constructive comments.
- What happened to the 35 mph speed limit on SGB promised once it was completed?
- Intersection of Bluff and Sunset – (1) maintain bluff St speed limit at a constant 45mph – not 45-35-45-35-45, as it is now. (2) use jersey barriers to prevent north bound cars/trucks from making a left turn across the south bound Bluff into the theaters and the theatre patrons from making a left turn going north on Bluff from the Bluff street inlet/exit. Both turns from and into the northbound lane is illegal since it crossed two sets of double yellow lines. These maneuvers will definitely lead to a tragic accident!
- Keep the existing airport for private use and fire fighting use (also small plane aviation repair and helicopters) By turning into a flying community – selling lots for hangers and homes for $1M a piece (20 parcils) and hold local flying (winter, spring, summer and fall) to attract private flyers to St. George for a show of planes (airshow-non-flying) so that we will fill up the hotels/motels/restaurants, etc. And bring more money to our economy during slow times. Early morning have conditions in the area of the new airport (daily) will inhibit take offs & landings of VFR planes!
- Speed limit on airport road @25mph is ridiculous- should be 35-40 mph as all people and police vehicles now travel at.

David Gibson – 257 So. Puerto Dr. Ivins
Good to see the info presented well shown and the effort is appreciated.

The Brigham Road round about are a major headache. Whoever allowed Flying J and Wal-Mart to locate there obviously doesn't have to use that route. I hope the rumor that Flying J will move to exit 2 is true. Those trucks are a hazard as well as are inconvenience.

Please reconsider the plans for South Corridor and Atkinville So. Corridor. There are many alternative plans to be studied.
PLEASE – RE-Consider!

Jim Guard - jhguard@infowest.com

- Good job. Experts were patient in answering questions and knowledgeable. Thank you!
- Bluff Street Corridor study - This study includes Bluff Street to, but not through the intersection at Convention Center Drive – it also includes a proposed Dixie Dr. to Riverside Dr. Please extend the Bluff Street Corridor study to include Riverside Drive to the proposed intersection with Dixie Drive. This would allow inclusive of a troublesome intersection and would allow the small section of Riverside which is excluded to be studied.

WESTERN CORRIDOR (The following nine comments reflect the common themes from the 54 comments received on the Western Corridor)

Mary Laird – 4418 S. Broadmoor Dr. Sun River, St George
I-15 Atkinville interchange and southern parkway: Think all is good idea, except – would like to see this interchange go further south so as not to go through Sun River, - this is a golf cart community, for older people and would bring crime, and other undesirable issues to this wonderful community. Thank you.

What would you think if the Western Corridor was coming thru your community? Very upset I'm sure- Put it south of us. No one told me about this one and a half years ago!!!

Consider alternate route for Western Corridor – Not thru Sun River

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Please consider an alternate route around sunriver for the Western Corridor. Thank You!

Please do the western corridor from Ivins sooner than later. Ivins is so far from everything.

PLEASE consider other routes for Western Corridor. Don't bisect and impact the Sun River Community. Thanks!

Why not run the western corridor further south around Sun River instead of bisecting a 55+ community? It would be less costly to build a bridge over the river further south too.

Gerald Jantz
As a Sun River resident, I am very much opposed to the proposed to turn Sun River pkwy into a major traffic route to I-15. This would certainly alter the life style and conditions in the area- reasons why we purchased a home there to begin with. Despite statements that "other alternatives can be looked at, everything I see shows SR Blvd as the chosen route which concerns me. Why can the route not be changed to the route of S.R. and not cut up our community. For the sake of Sun River residents, please consider the alternatives.

Bob Cook – robert_c_92129@yahoo.com
Western Corridor – I presently live in the active adult retirement community of Sun River. Tying the Western Corridor to I-15 using Sun River Pkwy shows a lack of concern for the citizens that live in Sun River when there is ample time to come up with an alternate route around Sun River. Some of the negatives of using of using Sun River concerning the seniors that live in sun river are as follows.

1. The community is split in half.
2. Increase in crime due to easy access to and from community.
3. SAFETY – due to high traffic (up to 40,000 cars a day), when crossing, exiting and entering.
4. Decrease in property value.

Show some compassion for your senior citizens!!! Please come up with another route for the Western corridor to connect to I-15 rather than Sun River Pky.

SUMMARY OF COMMENTS MADE BY REPRESENTATIVES OF LOCAL, STATE AND FEDERAL GOVERNMENT AGENCIES AT THE PRESENATION OF THE DRAFT UDOT AND MPO LONG RANGE TRANSPORTATION PLANS ON MARCH 21, 2007

As part of the update process for the unified long range transportation plans for UDOT, the Wasatch Front Regional Council (WFRC), the Mountainland Association of Governments (MAG), the Cache Metropolitan Planning Organization (CMPO) and the Dixie Metropolitan Planning Organization, the combined transportation planning agencies presented their respective draft long range plans to representatives from area federal, state and local government agencies with special emphasis on natural resource agencies. The transportation planning agencies were seeking input on the proposed plans and any perceived conflicts or needed mitigation measures that should be examined. Their comments are as follows:

Lucy Jordan, United States Fish and Wildlife Service

- Dr. Jordan requested that the various agencies be provided with the maps of the proposed long range transportation plans as soon as possible in the process in order to determine if there are resource conflicts with proposed projects.
- Avoidance of an impact is the first option, minimization of impacts is the second option and mitigation (compensation for unavoidable impacts) is the third option.
- Our transportation and development planning should consider opportunities to incorporate wildlife into our daily lives.
- The best rights-of-way for future transportation projects with the fewest resource impacts should be secured now because the impacts are often greater when we wait and are forced to take less desirable rights-of-way because development has precluded our options.
- Greater dependence on public transit would minimize the need for new roads.
- Often highway alternatives considered for federal funding are stopped because of resource conflicts so the project is shelved and built at a later time with local funds without environmental review, avoidance, or compensatory mitigation.
- The south west corner of the State is a biological hot spot with many threatened or endangered plant and animal species. The Fish and Wildlife Service has very significant concerns with certain proposed roads in the area and would like to work with the Dixie MPO and UDOT to minimize these conflicts. This is especially true of the so called 'western and northern corridors.'
- The eastern shore of the Great Salt Lake is also an important ecosystem for migratory birds and should be considered in any area transportation master plan.
- Every effort should be made to minimize crossing and fragmentation of ecosystems. Bridges, for example, must allow for proper flood plain usage.
- In the Mountain View Corridor in Utah County, there are significant concerns that certain wetlands are being separated from Utah Lake and the larger ecosystem.
- Native plants and other foliage meant to upgrade the aesthetics of highway projects often attract wildlife. This is a clear safety problem for motorists and negatively affects wildlife populations. There are desirable plants available that do not attract large numbers of wildlife.
- The MPO's and UDOT need to agree on a common format for their maps and other publications. The different formats can be confusing, especially to lay members of the public.

Cory Jensen, Utah State Division of History

- There is a data base available showing historic and pre-historic resources. It will be online this summer in Access format and should be available later this year in ArcView GIS format. It could be used as an overlay to show and avoid any resource conflicts.
- Avoidance of the conflict should be the first choice.

Dave Holdaway, Alpine School District

- Traffic routing during construction should be examined far in advance of any project; especially school bus routing
- Coordination with the school districts prior to any highway construction projects would help minimize these conflicts.

Doug Sakaguchi, Utah State Division of Wildlife Resources

- Every effort should be made to reduce the number of automobile/big game collisions.
- UDOT is helping with this effort by mapping crash locations as they pick up animals along the roadside.
- Currently, UDOT is using 8' fences to protect against wildlife encroachment with one way ramps to allow escape for those animals that do get inside the perimeter.
- The DWR is also working with UDOT to identify structures that help animals to avoid conflicts.
- Problems should be identified early in the process so they can be avoided or mitigated.

Carmen Bailey, Utah State Division of Wildlife Resources

- The Division has established key conservation focus areas and wetlands and is also working to restore other areas. The data is in GIS format now and may be shared with interested agencies. A GIS overlay of these data with transportation master plans would be useful in identifying potential conflicts.

Bruce Bonebrake, Utah State Division of Wildlife Resources

- Wildlife habitat connectivity is an issue when roads cut across an area.
- This is also a safety issue as much as a loss of big game issue.

- The Utah Transportation Research Advisory Council at USU will be studying specific structures over the next two years for effectiveness in allowing big game to cross transportation facilities. This information would be useful in future highway planning.
- UDOT will participate in a workshop on I-70 to identify big game focus areas, especially the first seven miles.
- St. George field office personnel should be included in any planning that will affect the desert tortoise and prairie dogs.
- Exclusion fences will help reduce kill rates for these small animals.

Mark Breitenbach, Central Utah Water Conservation District

- Maps of large, proposed water projects and pipelines should be superimposed over the draft transportation plans to identify any conflicts.
- The Springville project will begin this fall and the project from 800 North in Orem to Eagle Mountain is currently underway.

Alan Packard, Jordan Valley Water Conservancy District

- The alignment for the pipeline to bring water from the Bear River into the Salt Lake area is mostly established. That alignment should be considered as part of the WFRC transportation planning effort. *Note—Wasatch Front Regional Council staff will meet with Mr. Packard to evaluate this alignment.

Robert Powell, U.S. Forest Service

- SAFETEA-LU requires consultation with land management agencies for transportation master plans. Special consideration should be given to issues of big game crossings and invasive species.
- A similar meeting is being set up in the State of Wyoming to discuss these issues on a state wide basis and may serve as a prototype.

Shelly Quick, Utah State Division of Water Quality

- Use of established best management practices can be used to mitigate issues of rainwater carrying pollutants off roadways.
- Additional efforts to address impaired groundwater sources are especially needed.
- The Division of Water Quality would like to work with the transportation planning agencies to pursue solutions to these issues. A letter from the agency listing best management practices would be welcome according to George Ramjoue, WFRC Planning Manager.

Dan Fazzini, Salt Lake County Bicycle and Safe Routes to School Advisory Committee

- Re-routing bicycles during construction is a problem. There is often little or no room for bicyclists and pedestrians between the traffic lane and the orange barrels.
- Special consideration should be given to this problem when school children riding their bicycles to school are at issue.
- East/west facility improvements were needed years ago with or without the Mountain View Corridor.

Mike Olsen, Intermountain Health Care in Utah County

- Emergency services managers need to be made aware of construction projects in advance in order to re-route emergency vehicles.
- East/west travel in northern Utah County is a major problem.
- The planned highway projects need to proceed as soon as possible and not be held up by litigation.

Dave Creer, Utah Trucking Association

- UDOT has been doing a good job of construction project notification. Mr. Creer receives almost an e-mail per day which he is able to forward to area trucking companies.
- A bypass road west of Utah Lake would be helpful in avoiding the heavily congested areas on I-15.

Susan Zarekarizi, Utah State Division of Parks and Recreation

- 4(f) conflicts need to be identified in the transportation master plans. They are not currently available in GIS format. They are available in an Excel spreadsheet.
- Local park mangers should be contacted before planning area highway projects.
- The Snow Canyon area near St. George is rated as 6(f) for desert tortoises and should be avoided.

Todd Adams, Utah State Division of Water Resources

- Low water use landscaping should always be considered.

Ralph Bond, Utah State Division of Solid and Hazardous Waste

- It is not safe to assume that material torn up from old highway projects is clean. It needs to be looked at for contamination and disposed of appropriately.

Appendix D – Air Quality Protection Strategy

AIR QUALITY PROTECTION PLAN

For
The Dixie Metropolitan Planning Organization
Washington County

Dixie Transportation Planning Office
Five County Association of Governments
Draft (February 2003)

Air Quality Protection Plan for Utah's Dixie

INTRODUCTION

The US Census Bureau announced the newest small-urbanized area for the State of Utah in May of 2002, named the St. George Urbanized Area (UZA) after the Centrum city, but surrounded by three other communities: Ivins, Santa Clara, and Washington City. Appointed staff and elected officials from these four communities and other partners formed a technical advisory committee, and an executive council, respectively, which has supported a three-year work program to develop a long-range transportation planning process and metropolitan planning organizational structure. The Metropolitan Planning Organization (MPO) for the UZA was designated by the Governor September 20', 2002, and is called the Dixie MPO. In, compliance with federal guidelines the two committees have developed and approved processes and procedures for conducting long range planning, identifying proposed transportation projects for consideration in the metropolitan improvement program (TIP) and social, economic and environmental implications of the regional transportation system and the traffic growth being experienced and anticipated in the future.

One of the potential effects of growth and transportation infrastructure development to meet that growth is the deterioration of air quality. Vehicle miles of travel in the United States have continued to grow exponentially beyond population growth rates. According to statistics from the US Department of Transportation, the number of hours per capita that people spend delayed by traffic congestion is rising. The more vehicles are allowed to idle and move at less than efficiency generates more pollutants into the air we breathe. Although there are many sources of air pollution, including ambient air moving in from other parts of the region, auto emissions, vapor gases, and dust are common contributors to air pollution locally. Mode/trip decisions, reducing single occupancy vehicles, improving traffic flow and recovering gaseous vapors are some of the ways to protect the quality of air. These and other strategies will be looked at and recommended to local governments for their consideration and adoption. The Dixie area has been growing rapidly for many years and will continue to grow to build out conditions, and should look seriously at protecting its air shed quality.

Growth in Dixie has not stopped, and will likely go to build-out given enough water to supply the population. Vehicle miles of travel will continue to expand, and the associated congestion and traffic delays will continue increasing, so the potential for an air quality problem, especially for Ozone, is real for Utah's Dixie.

BACKGROUND

The consequences of allowing air quality to deteriorate to the point of exceeding pollutant standards, is costly. Besides the human health impacts and costs that are well documented, once an area is labeled a `non-attainment' area for pollutants, meaning it cannot maintain air quality to acceptable standards, capacity improvements to transportation pavement systems are restricted, additional state regulatory actions are then placed over an area increasing the cost to do business, to plan, and to implement projects. Needed federal funding may also be curtailed or withheld.

The Division of Air Quality and the Department of Environmental Quality have offered to help the Dixie area avoid this situation, or postpone it for as long as feasible, and will encourage Congress to deal more fairly with areas that are experiencing ambient Ozone from outside sources, but are being proactive at the local level. DAQ strongly recommends that the Dixie area do all that it possibly can on a voluntary basis in taking reasonable and cost effective measures to protect the air shed.

In the fall of 2001, the Dixie Transportation Advisory Committee inquired of The State Division of Air Quality (DAQ) on the status for air quality in the area. DAQ staff reported that an air quality monitoring station was in place in St. George from July of 1995, through the end of 1997. According to data gathered during that period, although no pollutants exceeded the current standards at that time, new Ozone standards currently being implemented by the EPA were approached during April/May of 1996 and 1997. DAQ staff made recommendations to the DTAC to consider developing a voluntary action plan to protect the air shed. Air shed protection is managed at the county level by DAQ.

To be pro-active, the DTAC agreed to begin drafting a protection plan, and to conduct a locally funded short-term Ozone study. SECOR, an air quality-engineering firm was chosen from a number of submitted proposals and began monitoring from a station placed on Washington County Annex property near the location of the original DAQ monitoring site. Data from this six-month study, conducted from May 2002, through October 2002, also did not exceed current Ozone standards but Ozone levels were slightly higher when compared to the 1995-97 DAQ data. Also, data available from a permanent monitoring site in Mesquite, Nevada shows very similar Ozone concentrations to St. George, according to SECOR. These studies, together with other data from the southwestern region of the US, show that Ozone levels approaching .08 are prevalent regardless of urbanized status. The results of the SECOR study is available for review at the Dixie Transportation Planning Office, Five County Association of Governments, 1070 W. 1600 S., St. George, UT 84770.

According to DAQ information, regional Ozone levels close to the new: 08-ppm standard are being seen at monitoring sites throughout the southern Utah region, from Four Corners, into the Grand Canyon, Zion National Park, Dixie and southern Nevada. DAQ also suggests that a local condition is occurring in springtime such that when vegetation begins to green up and temperatures are rising, the combination of emissions of nitrogen oxides (N Ox) and volatile organic compounds (VOC) contribute to ozone formation, and should be included in the scope of emissions inventory and non-regulatory monitoring efforts.

ACTION PLAN

A multi-agency team is being established to develop a scope of work for DAQ non-regulatory air pollution monitoring in Dixie with the intent of determining local pollution levels for several pollutants, but to especially focus on Ozone. The geographic scope will be the entire County of Washington.

This plan describes existing conditions, with various options/solutions followed by some recommendations.

More stringent guidelines are available under EPA's new Ozone Flex Program for areas concerned about potential future non-attainment of either the 1 hour or 8 hour ozone standards, to achieve emission reductions, secure public heath benefits, and accrue possible credits to future planning efforts, to the extent allowed by the Clean Air Act and EPA guidance or rules (See Attachment A).

Existing Conditions

Prevailing Winds in Dixie tend to move from the southwest in a northeasterly direction, almost on a daily basis. This air movement helps to change the air, to `refresh it', in a word, on a regular basis. However, the same prevailing winds are likely to carry contaminated air from nearby urban areas like, Las Vegas, or even from the Los Angeles Basin, into and through; Dixie. Truckers who drive the 1-15 Corridor on a regular basis are convinced of this relationship. Of course, anyone may have an opinion, but empirical results would be needed to determine the relationship and to affect public policy. Postponing empirical results may compromise community health standards, would be unprofessional, and against the operating values agreed to by DMPO partners.

- Cooperate and coordinate with DAQ and other local stakeholders in developing and Implementing a regional scope of work for non-regulatory monitoring in Utah's Dixie
- Encourage use of mobile monitoring equipment to help determine local and regional Ambient source contributions
- Participate in pollutant source inventorying and sharing other data, as needed (See Appendix A for typical pollution source list)

Traffic Congestion is a contributing factor to level of air quality due to increase in pollutants, as vehicles are qued up at intersections. Vehicles that are idling emit more pollutants than when operating at optimum speed, which is around 30mph. Delay time at specific intersections may be an indicator of Congestion. Another indicator may be average road link speeds that fall below 15 mph. If feasible, speed data may be available or

determined that will be useful in making traffic flow impact decisions. The Dixie MPO and its partners recommend the following strategies for local government consideration and action:

- Encourage Intersection Flow improvements & Traffic Signal synchronization
- Consider one-way streets where feasible (cost of signage/stripping)
- Maintain capacity, speed, and function of arterial /collector roads & corridors
- Encourage business and industry to establish Flexible employee work hours
- Encourage placement of fiber conduit in all new construction or rehabilitation projects for future ITS strategies
- Encourage municipal purchase of unused buried conduit

Municipal Corporation Policy varies throughout Dixie as to visible efforts to improve air quality. St. George City for example, has executed resolutions such as tree planting, especially in parking lots, which reduces vapor emissions from automobile gas tanks; encourages non-polluting industry; supports and operates public transit; and has had a goal of having a bicycle/pedestrian trail within 15 minutes of every home. Communities in the region are all actively supporting paths and trails and their connectivity The Dixie MPO encourages the following strategies for local government support and action:

* Landscaping/tree planting strategies, especially for parking lots
* Fleet Vehicle fueling in cool hours of the day
* Covering all solvent tanks or open storage of vaporous gases/liquid
* Encourage non-polluting industry
* Encourage any polluting industry to apply modern emissions technology
* Encourage Volatile Organic Compounds (VOC) recovery at all fueling stations
* Encourage fleet vehicle preventive care as recommended by manufacturers
* Support van and car-pooling of employees (no interest loans available)
* Support regional Public Transit when and feasible
* Encourage fleets that use alternative fuels (incentives available)
* Support Walkable Communities and neighborhoods (land use, zoning, codes)
* Support MPO Long Range Plans, Policy, and Standards in local development decision making

Private/Public Partnerships can go a long way in encouraging business and citizen contributions to air quality protection. Encourage the Chambers of Commerce to partner with local business, colleges, and industry to support similar protection measures as listed above.

Dixie MPO Work Plan:

1) Participate with DAQ and local partners in non-regulatory monitoring
2) Create Public/Private Education Program
   Distribute information to and through:
   - Chamber of Commerce members
   - Municipalities, County
   - Public Agencies
   - Schools, College
   - Neighborhood organizations
   - Coverage in local newspapers
   - Newsletters
3) Include Air Quality Protection strategies in the Long Range Transportation Plan
4) ITS technology should be reviewed and appropriate and effective tools implemented when feasible and affordable.
5) Assist DAQ in conduct of emissions inventory of sources of potential pollutants
6) Seek voluntary action consistent with prevention or control of related emissions
7) Seek funding for local action planning from the Environmental Protection Agency

Appendix A

Typical Sources of N Ox and VOC:

- Aircraft Purge Systems
- Chemical Milling
- Cold Solvents
- Construction Equipment
- Boiler Systems
- Dip Tanks
- Fueled Engines, mobile and stationary
- Engine Test Facilities
- Fueling Stations
- Fueling Equipment
- Fuel Tanks, mobile and stationary
- Generators
- Landscaping Equipment, engines
- Paint Strippers
- Painting Operations
- Wastewater Treatment Plants

Sources of Air Quality Programs, Regulations, and Information:

- Department of Environmental Quality, State of Utah
- Division of Air Quality, DEQ, State of Utah
- Environmental Protection Agency
  - The Ozone Flex Program: Voluntary Strategies to Reduce Smog (June 21, 2001) (See Attachment A)