

---

# Master Transportation Plan Addendum

---

For:

**FARMINGTON CITY**



HISTORIC BEGINNINGS • 1847

---

June 2009

## Table of Contents

<b>TABLE OF CONTENTS.....</b>	<b>I</b>
<b>LIST OF FIGURES.....</b>	<b>III</b>
<b>LIST OF TABLES .....</b>	<b>III</b>
<b>CHAPTER 1: INTRODUCTION .....</b>	<b>1-1</b>
1.1 Background.....	1-1
1.2 Purpose of the Addendum.....	1-2
1.3 Relationship to the 2005 MTP Update .....	1-2
1.4 Master Transportation Plan Addendum Methodology .....	1-2
1.4.1 Phase I – Local Roadway Network Analysis.....	1-2
1.4.2 Phase II – Regional Roadway Network Analysis .....	1-3
<b>CHAPTER 2: EXISTING CONDITIONS .....</b>	<b>2-1</b>
2.1 Introduction .....	2-1
2.2 Land Uses .....	2-1
2.3 Roadway and Intersection Capacity.....	2-1
2.4 Existing 2008 Traffic Condition Summary .....	2-1
<b>CHAPTER 3: LOCAL ROADWAY NETWORK ANALYSIS.....</b>	<b>3-1</b>
3.1 Introduction .....	3-1
3.2 Land Uses .....	3-1
3.3 Trip Generation, Distribution and Assignment.....	3-2
3.4 Traffic Conditions Analysis.....	3-3
3.4.1 Park Lane State Route Designation.....	3-3
3.4.2 Local Roadway Network and Development Phasing Scenarios .....	3-4
3.4.2A Local Roadway Network and Development Phasing Scenario A....	3-4
3.4.2B Local Roadway Network and Development Phasing Scenario B....	3-4
3.4.2C Local Roadway Network and Development Phasing Scenario C ...	3-5
3.4.2D Local Roadway Network and Development Phasing Scenario D ...	3-5
3.4.3 Traffic Conditions Summary.....	3-5
3.5 Local Roadway Network Analysis Recommendations .....	3-6
<b>CHAPTER 4: REGIONAL ROADWAY NETWORK ANALYSIS .....</b>	<b>4-1</b>
4.1 Introduction .....	4-1
4.2 Travel Demand Model Development.....	4-1
4.3 Regional Roadway Network Scenarios .....	4-2
4.3.1 Base Condition .....	4-2
4.3.2 Scenario I – Shepard Lane Local Access Interchange .....	4-2
4.3.3 Scenario II – UDOT D&RG North Legacy Connector Option .....	4-3

4.3.4	<i>Scenario III – Farmington North Legacy Connector Option</i> .....	4-3
4.3.5	<i>Scenario IV – Farmington North Legacy Connector Option and Shepard Lane Local Access Interchange</i> .....	4-3
4.4	Projected Traffic Volumes .....	4-3
4.5	Traffic Conditions Analysis .....	4-9
4.5.1	<i>Local Access Interchange at Shepard Lane</i> .....	4-9
4.5.2	<i>Traffic Operations on Park Lane</i> .....	4-10
4.5.3	<i>North Legacy Connector Traffic Volume Projections</i> .....	4-11
4.5.4	<i>Traffic Conditions Summary</i> .....	4-11
4.6	UDOT D&RG North Legacy Connector Option .....	4-11
4.7	Regional Roadway Network Recommendations .....	4-13
<b>CHAPTER 5: OVERALL IMPROVEMENT SUMMARY</b> .....		<b>5-1</b>
5.1	Introduction .....	5-1
5.2	Roadway Functional Classification.....	5-1
5.3	Corridor Preservation .....	5-5
5.3.1	<i>Farmington North Legacy Connector Corridor</i> .....	5-5
5.3.2	<i>I-15 Local Access Interchange and Shepard Lane Realignment</i> .....	5-6
5.3.3	<i>Northwestern Collector Roads</i> .....	5-6
5.3.4	<i>650 West Southern Extension</i> .....	5-7
5.3.5	<i>Park Lane to Clark Lane Realignment</i> .....	5-7
5.4	Intersection Improvements .....	5-7
5.4.1	<i>Traffic Operations</i> .....	5-8
5.4.1A	<i>400 West/State Street and 400 West/Frontage Road Intersections</i>	5-8
5.4.1B	<i>200 West/Frontage Road/I-15 Access</i> .....	5-8
5.4.1C	<i>South Mountain Road and Main Street</i> .....	5-8
5.4.1D	<i>Park Lake/Clark Lane/1100 West Relocation</i> .....	5-9
5.4.2	<i>Safety</i> .....	5-9
5.5	Access Management and Traffic Calming.....	5-10
<b>APPENDICES</b>		
Appendix A: North Legacy to Legacy Connection Corridor Preservation Study, June 2007		
Appendix B: Legacy North to Legacy Connection Evaluation Study, September 2007		
Appendix C: Local Roadway Network Analysis		
Appendix D: Regional Roadway Network Analysis		
Appendix E: Farmington Shivas Property Traffic Impact Study		

## List of Figures

Figure 2-1: Existing 2008 Traffic Condition Summary .....	2-2
Figure 3-1: Primary Land Parcels West of I-15 .....	3-2
Figure 3-2: Local Roadway Network Analysis Travel Distribution .....	3-3
Figure 3-3: Local Roadway Network and Development Phasing Scenario A .....	3-4
Figure 3-4: Local Roadway Network and Development Phasing Scenario B .....	3-4
Figure 3-5: Local Roadway Network and Development Phasing Scenario C .....	3-5
Figure 3-6: Local Roadway Network and Development Phasing Scenario D .....	3-5
Figure 4-1: Regional Roadway Network Base Scenario .....	4-4
Figure 4-2: Regional Roadway Network Scenario I: Local Access Interchange at Shepard Lane .....	4-5
Figure 4-3: Regional Roadway Network Scenario II: UDOT D&RG North Legacy Connector Option .....	4-6
Figure 4-4: Regional Roadway Network Scenario III: Farmington North Legacy Connector Option .....	4-7
Figure 4-5: Regional Roadway Network Scenario IV: Farmington North Legacy Connector Option and Shepard Lane Local Access Interchange .....	4-8
Figure 4-6: UDOT D&RG North Legacy Connector Option #3 .....	4-12
Figure 5-1: 2005 Roadway Functional Classification Plan .....	5-2
Figure 5-2: 2009 Roadway Functional Classification Plan .....	5-3

## List of Tables

Table 4-1: Two-Way Daily Volume on Critical Roadway Segments .....	4-9
Table 4-2: Park Lane Corridor PM Peak Hour Traffic Operations .....	4-10
Table 4-3: North Legacy Connector Traffic Volume Projections .....	4-11
Table 5-1: Farmington City Functional Classification Operational Guidelines .....	5-1
Table 5-2: Farmington City Functional Classification Planning and Design Guidelines .....	5-4

---

---

## CHAPTER 1: INTRODUCTION

### 1.1 Background

In November 2005 Horrocks Engineers completed a full update of the Farmington City Master Transportation Plan (2005 MTP Update). This update included a corridor preservation recommendation for what was then termed the North Legacy Transportation Corridor (2005 MTP Update Figure 11-5). The recommendation included a collector-distributor roadway immediately adjacent to and paralleling I-15 between Park Lane and Shepard Lane that transitioned westward into a separate corridor immediately south of the Shepard Lane crossing of I-15. It was anticipated that this corridor would serve the transportation demand up to the year 2030.

As a part of the corridor preservation effort, questions were raised regarding the operational longevity of the recommended corridor. Further analysis determined that the proposed corridor would not accommodate projected traffic demands from 2030 to 2040. UDOT initiated the *North Legacy to Legacy Connection Corridor Preservation Study, June 2007* (See **Appendix A**) in an effort to further study this issue.

The study concluded with a recommendation to preserve a corridor that generally followed the north/south alignment of the Denver & Rio Grand Railroad corridor, bisecting the area west of I-15. This recommended option represented a substantial deviation from Farmington's 2005 MTP Update recommendations for the area west of I-15.

As a result, Farmington City initiated and completed an independent assessment of the UDOT study. That study, titled *Legacy North to Legacy Connection Evaluation Study* (See **Appendix B**), was completed in September 2007.

The Farmington study findings concurred with UDOT's assessment that the North Legacy to Legacy connection option depicted in the 2005 MTP Update would likely not accommodate 2040 traffic demands.

The study recommended that the City consider an amendment to revise the 2005 MTP Update North Legacy to Legacy connection alignment option.

The study also recommended that the City initiate an effort to look at the development potential west of I-15 and quantify the magnitude of traffic, identify and analyze key traffic access and circulation issues, and study the feasibility for a "local access" interchange at I-15/Shepard Lane.

The City continued efforts to refine corridor preservation alternatives along the City's western boundary.

This Master Transportation Plan Addendum (MTP Addendum) seeks to address each of these outstanding issues.

For the purposes of this MTP Addendum, and to be consistent with the Wasatch Front Regional Council's Regional Transportation Plan 2007-2030, any proposed future UDOT connector corridor west of I-15 will be herein referred to as the North Legacy Connector.

## 1.2 Purpose of the Addendum

The primary purposes of this MTP Addendum are to:

- 1) Update the 2005 MTP Update recommendations west of I-15 in light of:
  - a. UDOT's future plans to identify and preserve a transportation corridor per the North Legacy Connector Study identified in the WFRC Regional Transportation Plan: 2007-2030.
  - b. Increased development potential adjacent to Park Lane
- 2) Further assess North Legacy Connector corridor alternatives along the City's western boundary.
- 3) Refine and update the Transportation Capital Facilities Plan and Transportation Impact Fees.

## 1.3 Relationship to the 2005 MTP Update

Recommendations related to this MTP Addendum focus primarily on the area of the City west of I-15.

Elements of the 2005 MTP Update that remain current include:

- Chapter 1: Introduction
- Chapter 2: Transportation Goals and Objectives
- Chapter 5: Typical Street Sections
- Chapter 6: Alternative Transportation
- Chapter 7: Intersection Improvements.
- Chapter 8: Access Management
- Chapter 9: Traffic Calming
- Chapter 10: Corridor Preservation (excluding Section 10.2)
- Elements of Chapter 11: Alternatives Evaluation and Recommendations that are east of I-15.

Where inconsistencies exist between the 2005 MTP Update and this MTP Addendum, this MTP Addendum shall take precedence.

## 1.4 Master Transportation Plan Addendum Methodology

This MTP Addendum analysis effort was completed in two overall phases.

### 1.4.1 Phase I – Local Roadway Network Analysis

Phase I focused solely on issues related to the local roadway network west of I-15. Localized roadways are defined as those roadways that predominantly provide local rather than regional traffic circulation. Phase I included the following specific tasks:

- **Task 1: Existing Roadway Network Issues and Conditions.** Inventory and analysis of existing traffic and transportation issues and conditions.
- **Task 2: Land Use Determination, Trip Generation, Distribution and Assignment.** Development of localized land use scenarios. Localized traffic generation, distribution and assignment.

- **Task 3: Traffic Operations Analysis.** Analysis of local traffic conditions for baseline, year 2020 and year 2040 conditions.
- **Task 4: Key Issues and Local Mitigation.** Identification and evaluation of roadway improvement strategies required to mitigate deficiencies in the local roadway network.

The local roadway network analysis findings and recommendations are presented later in this MTP Addendum.

#### 1.4.2 Phase II – Regional Roadway Network Analysis

Phase II focused on issues related to the broader regional roadway network including connections to I-15, Legacy Parkway, and US-89. The primary task included identifying and analyzing regional mitigation measures that could be implemented to improve overall traffic operations while best accommodating the local roadway network and supporting associated land uses. Land use scenarios were developed and analyzed for baseline, year 2020 and 2040 (representing build out year) conditions.

The Regional Roadway Network Analysis findings and recommendations are presented later in this MTP Addendum.

---

---

## CHAPTER 2: EXISTING CONDITIONS

### 2.1 Introduction

Existing traffic conditions west of I-15 were thoroughly evaluated. Traffic data collected as a part of the analysis included key roadway and intersection traffic volumes and configurations, intersection control, land uses and zoning, and roadway and intersection geometry. This data formed the basis for both the existing and future traffic conditions analysis.

### 2.2 Land Uses

Traffic volumes and travel patterns are directly related to land use and development density. Existing development in the portion of the City west of I-15 is predominantly residential and agricultural in nature with exception of the Davis County Events Center and the Davis County Justice Court.

Several large-scale mixed-use commercial developments adjacent to Park Lane are at various stages of construction or planning. Station Park is the first of these developments to begin construction. Station Park is directly adjacent to the Utah Transit Authority (UTA) FrontRunner station, which began operation in April 2008. Two additional large-scale, mixed-use developments north of Park Lane are currently in the planning stages.

### 2.3 Roadway and Intersection Capacity

The term used to describe the traffic flow or operations on roadways and at intersections is Level of Service (LOS) (See **2005 MTP Update Section 2.3**). LOS quantifies the amount of delay motorists experience while traveling. For roadway segments, LOS is based on average vehicle travel speed for the segment under consideration. At an intersection, LOS is based on the delay experienced per vehicle. For signalized intersections, the delay per vehicle is based on the control delay caused by the traffic signal. At an unsignalized/stop controlled intersection the delay is based on vehicle time spent waiting at the intersection in order to make the desired movement.

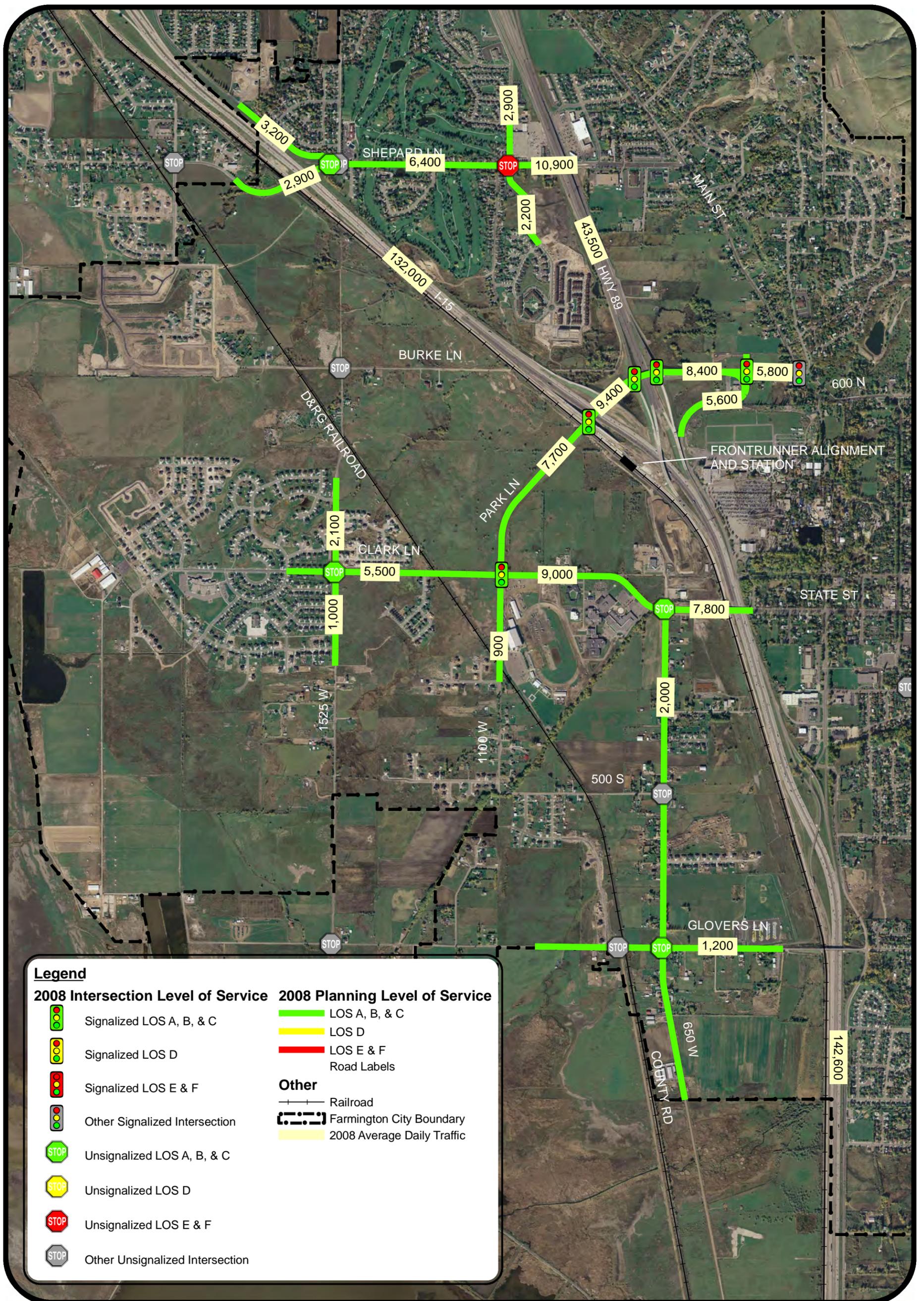
For both roadway and intersection LOS, The Highway Capacity Manual (HCM), published by the Transportation Research Board (TRB), utilizes six levels-of-service values that range from “A” to “F”. In general, LOS “A” represents free-flow operations with very little vehicle delay. LOS “F” represents a very congested condition with excessive vehicle delay and low operational speeds.

This MTP Addendum maintains the desirable goal for LOS “C” on arterial roadway segments and LOS “D” at intersections during peak traffic hours as identified in the 2005 MTP Update (See **2005 MTP Update Section 2.3**).

### 2.4 Existing 2008 Traffic Condition Summary

Existing (2008) traffic data was collected at key intersections and roadway segments within the study area. An existing condition traffic analysis was performed at the key intersections using the Synchro/SimTraffic software package.

All of the intersections and roadway segments within the study area currently operate at LOS “C” or better. **Figure 2-1** summarizes key existing intersection and roadway segment operations within the study area.



**EXISTING 2008 TRAFFIC CONDITIONS SUMMARY**



---

---

## CHAPTER 3: LOCAL ROADWAY NETWORK ANALYSIS

### 3.1 Introduction

Recommendations from the 2005 MTP Update for the local roadway network west of I-15 were revisited as a part of this local roadway network analysis. Efforts to preserve a corridor for the future North Legacy Connector and significant development potential in the areas immediately adjacent to Park Lane will impact the 2005 MTP Update local roadway network recommendations.

The analysis included a detailed look at the development potential immediately adjacent to I-15, quantifying and addressing traffic impacts and key access and circulation issues. The goal of this analysis was to identify the local roadway network that will be necessary to support the planned land uses.

Preliminary findings associated with the local roadway network analysis were presented at a joint City Council/Planning Commission work session on April 24, 2008. The presentation is included in **Appendix C**.

### 3.2 Land Uses

The local roadway network analysis focused primarily on the area west of I-15 that is immediately adjacent to Park Lane. With the exception of this specific area, most of the area west of I-15 is residential in nature. Several large-scale, mixed-use commercial developments in this area are at various stages of construction or planning. Station Park was the first of these developments to begin construction and is adjacent to the Utah Transit Authority (UTA) FrontRunner station, which began operation in April 2008. Other additional large-scale mixed-use developments north of Park Lane are currently in the planning stages.

**Figure 3-1** depicts the general location of the largest land parcels in the Park Lane area. Currently, the three largest mixed-use development areas are controlled by four separate development groups:

- The Station Park development lies immediately south of Park Lane. This development area is planned to include approximately one million square feet of retail/commercial uses and 300 residential units.
- Parcel "A" borders the D&RG corridor stretching from just south of Clark Lane to just north of Burke Lane. Based on planning level discussions with the developer, this area was assumed to include approximately 1,100 residential units, 400,000 square feet of retail/commercial uses and 40,000 square feet of office uses.
- Parcel "B" is located immediately north of Park Lane and borders I-15 along its northern boundary. Based on planning level discussions with the developer, this area was assumed to include approximately 500,000 square feet of retail/commercial uses and 250,000 square feet of office uses.

These three developments constitute the area of primary development potential west of I-15. Future traffic associated with these three development areas were considered as a part of the local roadway network analysis.

Other large land areas/developments that influence existing and future development and travel patterns include:

- The Davis County Events Center and Justice Court immediately south of Clark Lane and east of 1100 West.
- Parcel “C”, which includes three separate developable land parcels north of Burke Lane and bordering I-15.
- Parcel “D”, which is a residential development known as the Cottages at Station Park.

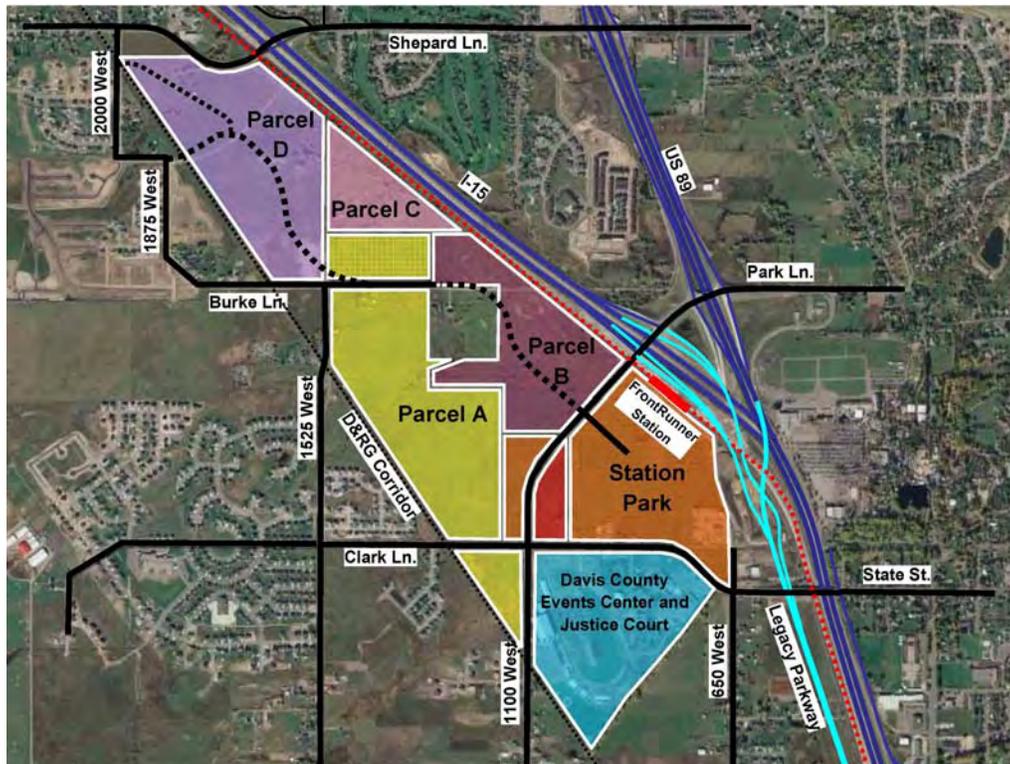


Figure 3-1: Primary Land Parcels West of I-15

### 3.3 Trip Generation, Distribution and Assignment

For the local roadway network analysis, trip-making characteristics associated with the development area were estimated using the trip generation methodology from the Institute of Transportation Engineers (ITE). Daily and PM peak hour trips were generated for analysis purposes. The trip generation estimates assumed full build-out of each of the largest land parcels.

Station Park, Parcel A and Parcel B of the development area are estimated to generate a total of approximately 64,000 daily trips with approximately 6,500 occurring during the afternoon peak hour (5:00 to 6:00 pm). **Appendix C** includes the detailed trip generation summary for each of the three parcels.

Traffic generated by the proposed developments was distributed and assigned to the roadway network based on the regional travel distribution obtained from the Wasatch Front Regional Council (WFRC) travel demand model. **Figure 3-2** shows the regional travel distribution.

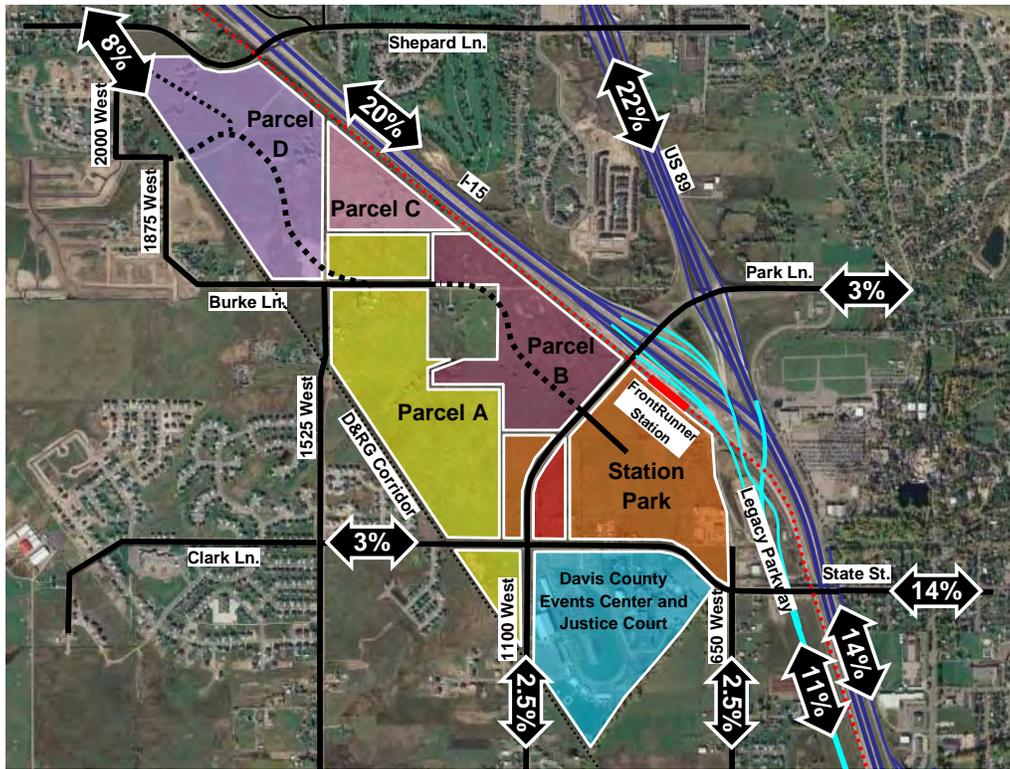


Figure 3-2: Local Roadway Network Analysis Travel Distribution

Based on the regional travel distribution and the local roadway network, approximately 70% of the travel demand will be oriented to a freeway facility (I-15, US-89 & Legacy Parkway) or areas east of I-15 via Park Lane.

### 3.4 Traffic Conditions Analysis

Given the adjacent development potential and key links to I-15, US-89 and Legacy Parkway, Park Lane traffic operations became the primary focal point of the local roadway network analysis. Traffic associated with the PM Peak Hour was selected as the critical time period for analysis purposes.

#### 3.4.1 Park Lane State Route Designation

Park Lane is a UDOT facility (SR-225) between Clark Lane and SR-106 (North Main Street) with access being administered through UDOT. The section of Park Lane between the Southbound I-15 Off-Ramp/Legacy Parkway On-Ramp intersection and the Clark Lane/Park Lane intersection is approximately 3,000 feet.

With the development of Station Park, a traffic signal is planned at the intersection of Park Lane and the Station Park access (1,100 feet from the Southbound I-15 Off-Ramp/Legacy Parkway On-Ramp intersection and 1,900 feet from the Clark Lane/Park Lane intersection).

Based on UDOT’s current access management standards and discussions with UDOT Region 1 staff, no additional signalized access to Park Lane west of I-15 will be permitted as it is currently configured.

### 3.4.2 Local Roadway Network and Development Phasing Scenarios

Given the constraints associated with signalized intersection access on Park Lane, several local roadway network scenarios were analyzed. Additionally, the analysis assumed that phasing and timing of the proposed Station Park, Parcel A and Parcel B developments would likely result in steady increases to traffic volumes over time rather than an instantaneous increase that would result if each development were to build out simultaneously.

#### 3.4.2A Local Roadway Network and Development Phasing Scenario A

The analysis first looked only at traffic conditions associated with the Station Park development and the existing roadway network with a traffic signal at the intersection of Park Lane and the Station Park access (See **Figure 3-3**).

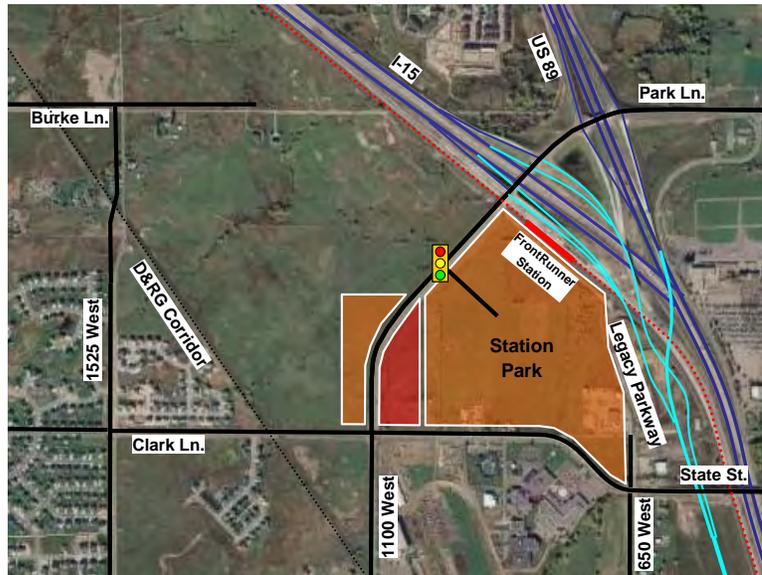


Figure 3-3: Local Roadway Network and Development Phasing Scenario A

#### 3.4.2B Local Roadway Network and Development Phasing Scenario B

The second scenario considered traffic conditions associated with the Station Park development and Parcel "A". The roadway network was the same as Scenario A but with an extension of the Station Park access roadway North of Park Lane that would provide primary access to Parcel "A" (See **Figure 3-4**).

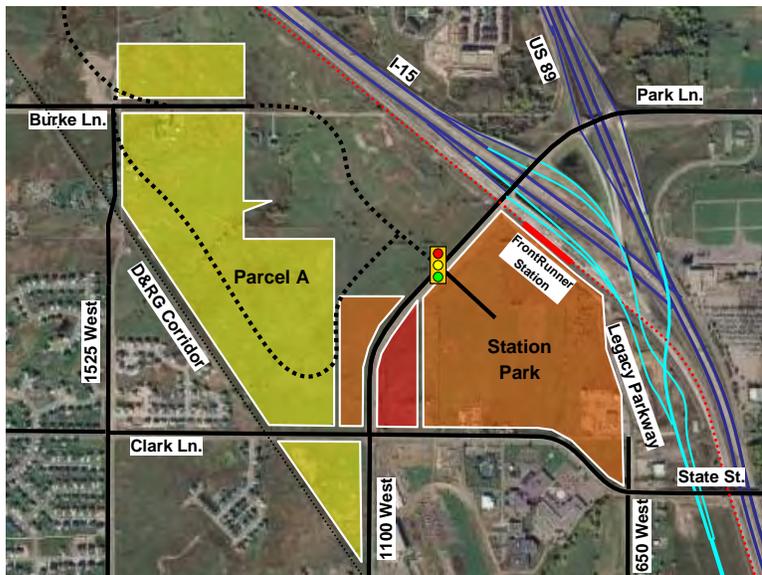


Figure 3-4: Local Roadway Network and Development Phasing Scenario B

### 3.4.2C Local Roadway Network and Development Phasing Scenario C

Scenario C also considered traffic conditions associated with the Station Park development and Parcel “A”. The roadway network was the same as Scenario II but included a full-movement unsignalized access about half way between Clark Lane and the Station Park access (See **Figure 3-5**).

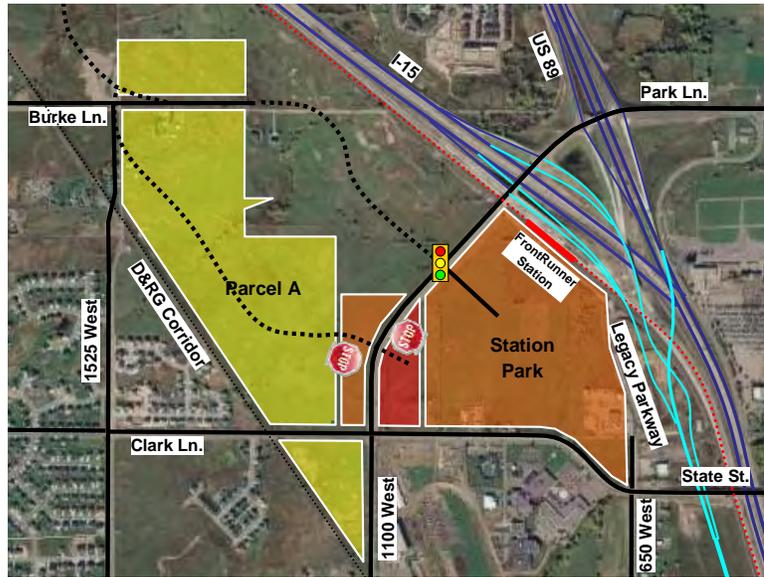


Figure 3-5: Local Roadway Network and Development Phasing Scenario C

### 3.4.2D Local Roadway Network and Development Phasing Scenario D

This final scenario also considered traffic conditions associated with the Station Park development and Parcel “A”. The Park Lane alignment was modified to bend westward and tie directly into Clark Lane. 1100 West was extended north to intersect with the realigned Park Lane and a roadway continuing north to Burke Lane. The traffic signal at Clark Lane/Park Lane was relocated north to the new intersection (See **Figure 3-6**).

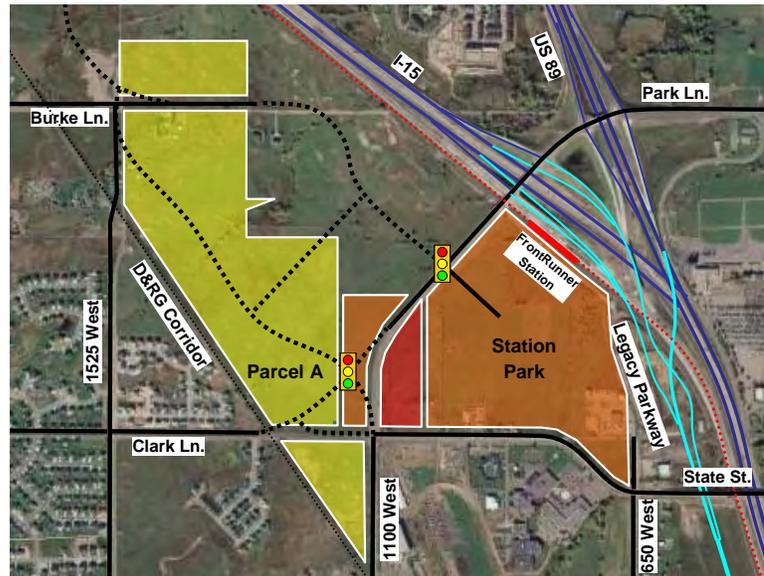


Figure 3-6: Local Roadway Network and Development Phasing Scenario D

### 3.4.3 Traffic Conditions Summary

The following is a summary of key findings from the local roadway network traffic conditions analysis:

- Due to the distribution of development-related traffic to the freeway facilities, the section of Park Lane between I-15 and the Station Park access was shown to be the critical local roadway segment west of I-15.

- No local roadway network modifications, on their own, will provide sufficient capacity to accommodate traffic demands related to the overall development potential west of I-15. Regional transportation network improvements will be necessary.
- The orientation of Station Park development traffic to freeway facilities via Park Lane results in heavy peak hour left-turn in and right-turn out movements associated with Scenario A. These heavy turning movements consume a substantial amount of the available signalized intersection capacity.
- The roadway network associated with Scenario B will not sufficiently accommodate traffic associated with the full buildout of the Station Park and Parcel “A” developments. Traffic volumes at the intersection of Park Lane and the Station Park access will result in failing traffic signal operations. Additional access to Park Lane will be required.
- The roadway network associated with Scenario C better accommodates the Station Park and Parcel “A” development traffic. Traffic volumes at the intersection of Park Lane and the Station Park access will result in Level of Service (LOS) “C” conditions. Three through lanes in each direction would be necessary on Park Lane between the full-movement unsignalized access and I-15 in order to accommodate the traffic demand. Restriping and traffic signal timing and phasing modifications at the I-15 and US-89 interchange intersections would be required to accommodate the additional traffic demand.

The roadway network associated with Scenario C would not sufficiently accommodate the traffic demand should UDOT prohibit left-turn movements at the unsignalized access through the installation of raised medians on Park Lane.

- Scenario D best accommodates the traffic demand. The most important element of this scenario is the relocation of the Park Lane/Clark Lane traffic signal. With the relocation, direct signalized access can be provided to Parcel “A”. This relocated traffic signal more efficiently and permanently accommodates the traffic demand.

Three through lanes in each direction would be necessary on Park Lane between the Scenario D relocated Park Lane/Clark Lane traffic signal and I-15 in order to accommodate the traffic demand. Restriping and traffic signal timing and phasing modifications at the I-15 and US-89 interchange intersections would be required to accommodate the additional traffic demand.

- The relocation of the Park Lane/Clark Lane traffic signal creates an opportunity to provide an important continuous north/south roadway facility west of and parallel to I-15.
- Right-in/right-out access on Park Lane between the Station Park access intersection and the realigned Park Lane/Clark Lane intersection will improve traffic operations at both signalized intersections.

### **3.5 Local Roadway Network Analysis Recommendations**

Recommendations from the local roadway network analysis include:

1. Signalize the Park Lane/Station Park access intersection.
2. Realign Park Lane and Clark Lane to provide a continuous east/west connection to I-15 and US-89 and accommodate the relocation of the Park Lane/Clark Lane traffic signal.

3. Relocate the Park Lane/Clark Lane traffic signal as a part of the Park Lane realignment effort.
4. Reconfigure 1100 West and Clark Lane to accommodate the realignment of Park Lane.
5. Provide a continuous north/south roadway facility that would extend 1100 West from the realigned Park Lane north to Burke Lane.
6. Provide east/west public roadway connections between Parcel "A" and Parcel "B".
7. Provide at least one public right-in/right-out access on both sides of Park Lane midway between the Station Park access intersection and the realigned Park Lane/Clark Lane intersection.
8. Widen Park Lane from 5-lanes to 7-lanes between the realigned Park Lane/Clark Lane signalized intersection and I-15.
9. Provide an east/west minor collector roadway between 1525 West and 1100 West at approximately 440 South.

---

---

## CHAPTER 4: REGIONAL ROADWAY NETWORK ANALYSIS

### 4.1 Introduction

A key finding from the local roadway network analysis effort was that no local roadway network modifications, on their own, would provide sufficient capacity to accommodate traffic demands related to the overall development potential west of I-15. As such, a regional roadway network analysis effort was required.

Additionally, a North Legacy Connector cannot adequately be assessed without an overall look at how the local roadway network integrates with the regional roadway network.

It is important that the regional roadway network be developed so that it will adequately accommodate future traffic volumes. For the purposes of this analysis, 2020 and 2040 conditions were evaluated.

This chapter discusses the different regional network improvements that were evaluated and presents key findings and recommendations.

Preliminary findings associated with the regional roadway network analysis were presented at the July 15, 2008 City Council meeting. The presentation is included in **Appendix D**.

### 4.2 Travel Demand Model Development

When looking at different regional transportation network options, such as new freeway interchanges or major corridors, a different methodology is used to estimate future traffic volumes than that used for the local roadway network analysis.

Future travel patterns and the associated roadway operations are directly related to land uses, socio-economic conditions, and the regional roadway network. Since travel is not restricted by municipal boundaries, a large-area analysis must be considered when estimating future travel conditions in Farmington City and the surrounding region.

The Wasatch Front Regional Council's (WFRC) Travel Demand Model was used to generate future traffic volumes for the purpose of evaluating potential regional network improvements. This travel demand model process is discussed in the following sections.

Future land use and socio-economic data for Farmington were obtained from the WFRC and reviewed and refined by Farmington City staff. The socio-economic data includes information on population, employment, and total number of households. The base WFRC model was updated with the most current Farmington socio-economic data (See **Appendix D**) so as to accurately project future traffic volumes and travel patterns.

The WFRC travel demand model divides the large multiple-county area under its jurisdiction into smaller areas called traffic analysis zones (TAZs). Each TAZ incorporates the socio-economic data that either exists or is planned for that specific area. This data is utilized by the WFRC model to determine travel demand. For the purposes of this analysis, the TAZ boundaries in the base WFRC model were adjusted to better align with the large property parcels and planned roadway network west of I-15 (See **Appendix D**).

Existing traffic volume counts and land use data provided by Farmington City were used to calibrate the WFRC model to more accurately reflect existing traffic volumes in Farmington. Following model calibration, the model was run for each of the different Scenarios for both the 2020 and 2040 analysis years.

## 4.3 Regional Roadway Network Scenarios

Five regional roadway network scenarios were developed for both the 2020 and 2040 future years. The first roadway network scenario represented a base condition, from which the other scenarios would be compared. The remaining scenarios included various improvements or modifications to this original base condition. The four improvement scenarios were developed through an iterative process with Farmington City staff. The goal in developing these scenarios was to represent a full range of regional improvement options.

### 4.3.1 Base Condition

**Figure 4-1** depicts the Base Condition Scenario. This scenario represents the existing (2008) roadway network and incorporates the local roadway network improvements recommended in Chapter 3.

### 4.3.2 Scenario I – Shepard Lane Local Access Interchange

Park Lane is the only I-15 interchange that connects the east and west sides of Farmington over a distance of approximately nine miles. The 2004 American Association of State Highway and Transportation Officials (AASHTO) Green Book states as a general rule of thumb that a minimum interchange spacing for urban areas should be one mile with two miles being appropriate in rural areas. Despite the fact that this rule of thumb represents minimum spacing, a four to five mile spacing of interchanges in this area will likely be insufficient when considering future travel demands for the area.

Looking at the area between 200 North/SR 273 in Kaysville and Parrish Lane in Centerville yields few feasible areas for future interchange development. The area south of the US-89/Park Lane interchange is constrained by the location of I-15, the rail corridor and Legacy Parkway, making it extremely difficult to provide for a full access interchange that would provide a substantial benefit to Farmington City.

Areas north of the US-89/Park Lane interchange are also constrained by the location of the rail corridor immediately west of I-15 as well as residential development located immediately east of I-15. The Shepard Lane crossing of I-15 appears to represent the most feasible location for a future interchange.

Interchange alternatives studied in the past at this location garnered substantial opposition based on the idea that the interchange would serve as the primary connection between I-15 and a future North Legacy Corridor. None of the previous study efforts included the option of a local access interchange at Shepard Lane. A local access interchange would provide access to the regional roadway network (I-15) while maintaining the quality and context of immediately adjacent residential land uses. A local access interchange generally accommodates lower traffic volumes and requires less right-of-way than a traditional interchange.

The Davis Weber East-West Transportation Study (UDOT Sept. 2008) included a provision for a new interchange at Shepard Lane as a Priority 3 project (2024-2033).

**Figure 4-2** depicts Scenario I, which includes the Base Condition Scenario improvements as well as a local access interchange on I-15 in the vicinity of the current Shepard Lane crossing. The purpose of analyzing this scenario is to quantify the impact that a local interchange at this location would have on improving accessibility to I-15 and reducing future travel demands on Park Lane.

### 4.3.3 Scenario II – UDOT D&RG North Legacy Connector Option

**Figure 4-3** depicts Scenario II, which incorporates the recommended option from the North Legacy to Legacy Connection Corridor Preservation Study, June 2007 (See **Appendix A**). This option generally follows the north/south alignment of the Denver & Rio Grand Railroad corridor that bisects the area west of I-15.

With this scenario, the Legacy North Connector facility will have a system-to-system interchange with I-15 and Legacy Parkway between 600 South and Glovers Lane, a local interchange at Park Lane and second local interchange near the Farmington/Kaysville border.

### 4.3.4 Scenario III – Farmington North Legacy Connector Option

Following the completion of the Legacy North to Legacy Connection Evaluation Study (See **Appendix B**) in September 2007, Farmington worked to develop a western North Legacy Connector alignment scenario that they felt addressed or mitigated the adverse impact issues identified in the North Legacy to Legacy Connection Corridor Preservation Study.

Scenario III (See **Figure 4-4**) represents this Farmington North Legacy Connector alignment and is based on the North Legacy to Legacy Connection Corridor Preservation Study Option 2 – Great Salt Lake Shoreline Alignment (See **Appendix A**). Important distinctions between Scenario III and Option 2 include a more northerly location of the scenario's southern terminus, connections to both I-15 and Legacy Parkway in the vicinity of Glovers Lane, and defined interchange locations.

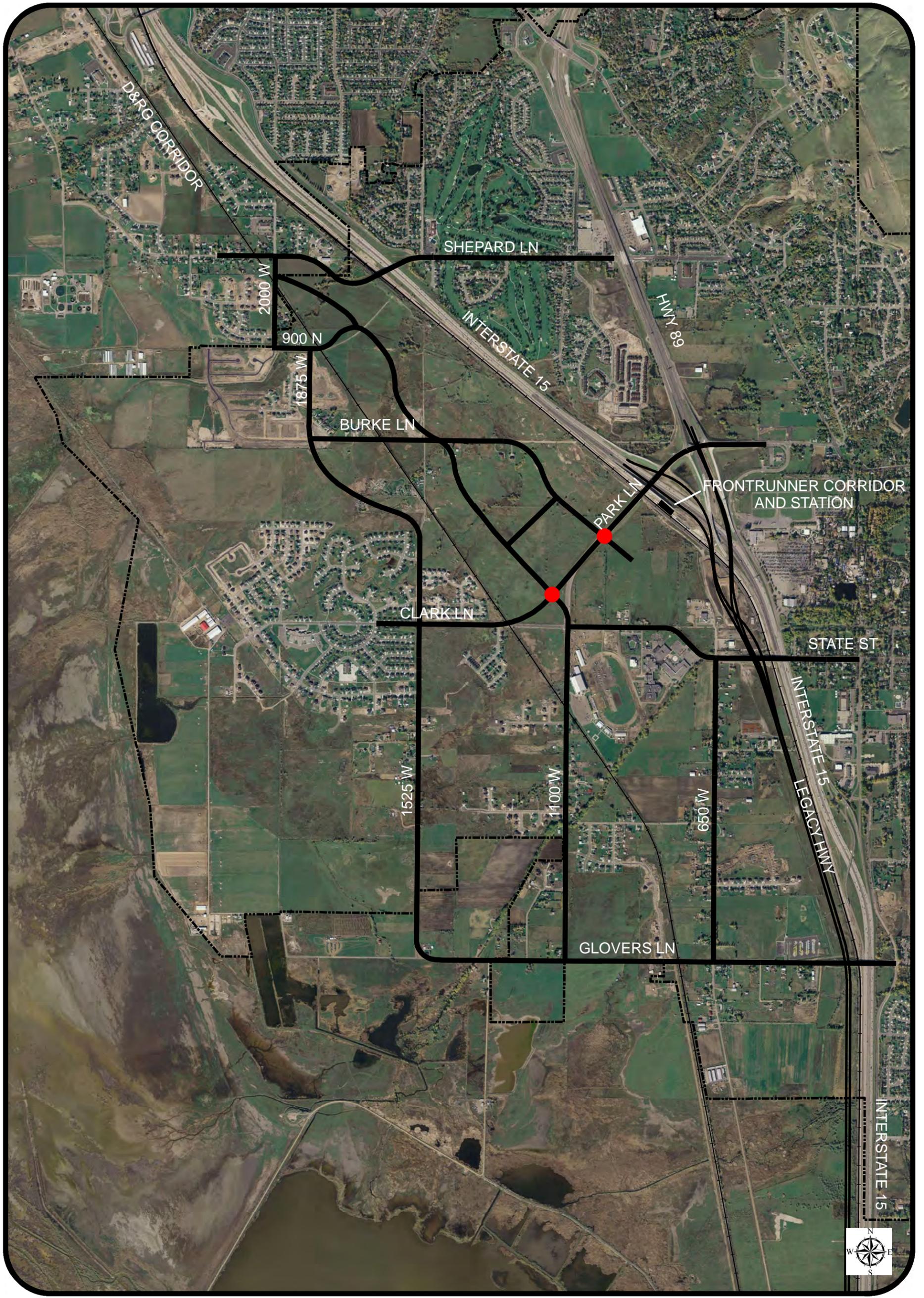
As a part of this scenario, the Farmington North Legacy Connector option includes an interchange with I-15 and Legacy Parkway near Glovers Lane, a local access interchange at 1150 West and an interchange near the Farmington/Kaysville border.

### 4.3.5 Scenario IV – Farmington North Legacy Connector Option and Shepard Lane Local Access Interchange

**Figure 4-5** depicts Scenario IV, which represents a combination of Scenarios I and III. This scenario seeks to combine the need for an acceptable and feasible North Legacy Connector corridor while addressing the need to provide additional I-15 access and maintain acceptable traffic operations on Park Lane.

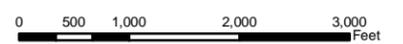
## 4.4 Projected Traffic Volumes

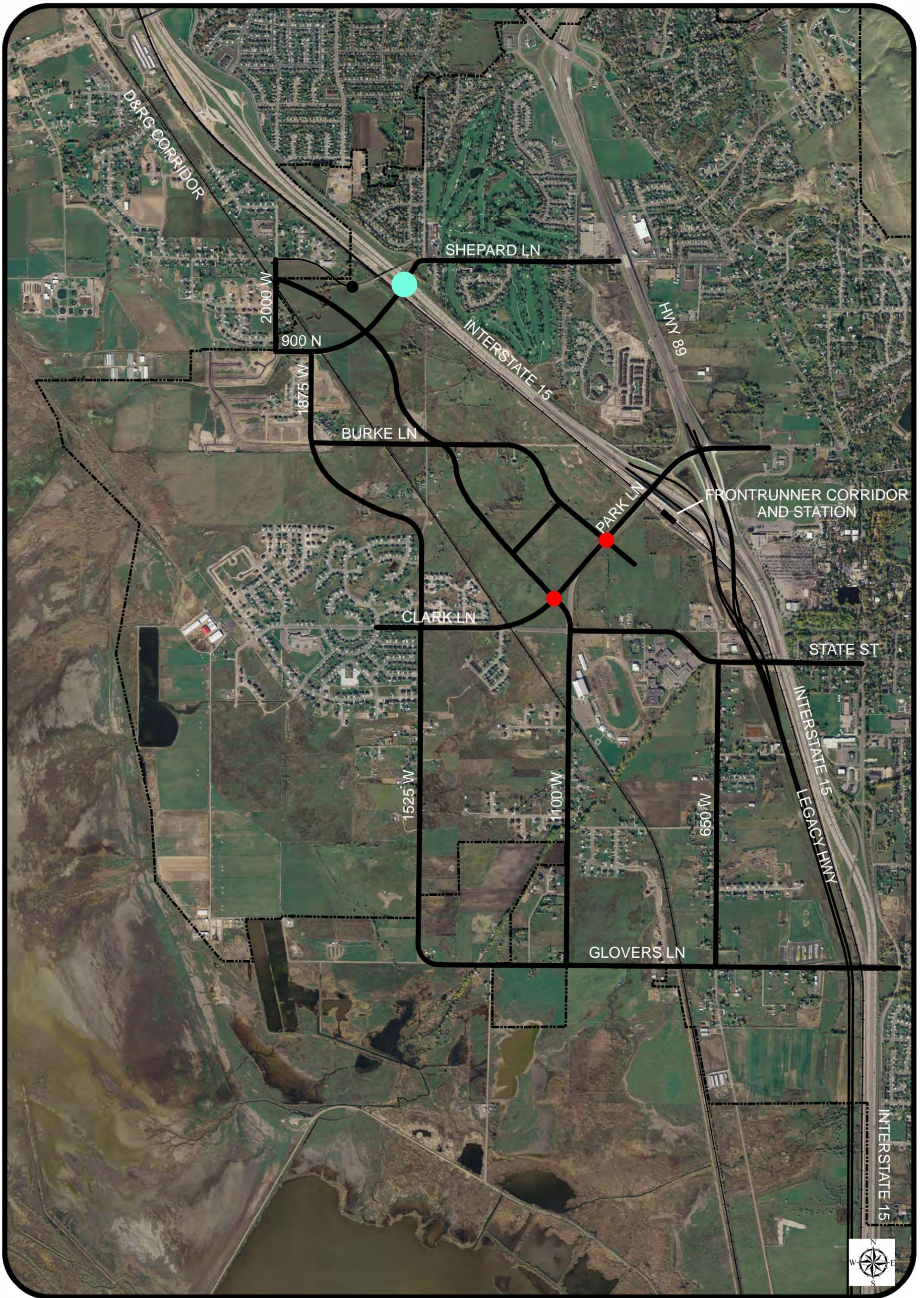
Two-way 2020 and 2040 daily traffic volumes generated by the travel demand model for the roadway segments in the study area are shown in **Figures D-2** through **D-6** in **Appendix D**.



**BASE SCENARIO**

- Primary Scenario Roadways
- Farmington City Boundary
- Scenario Traffic Signals

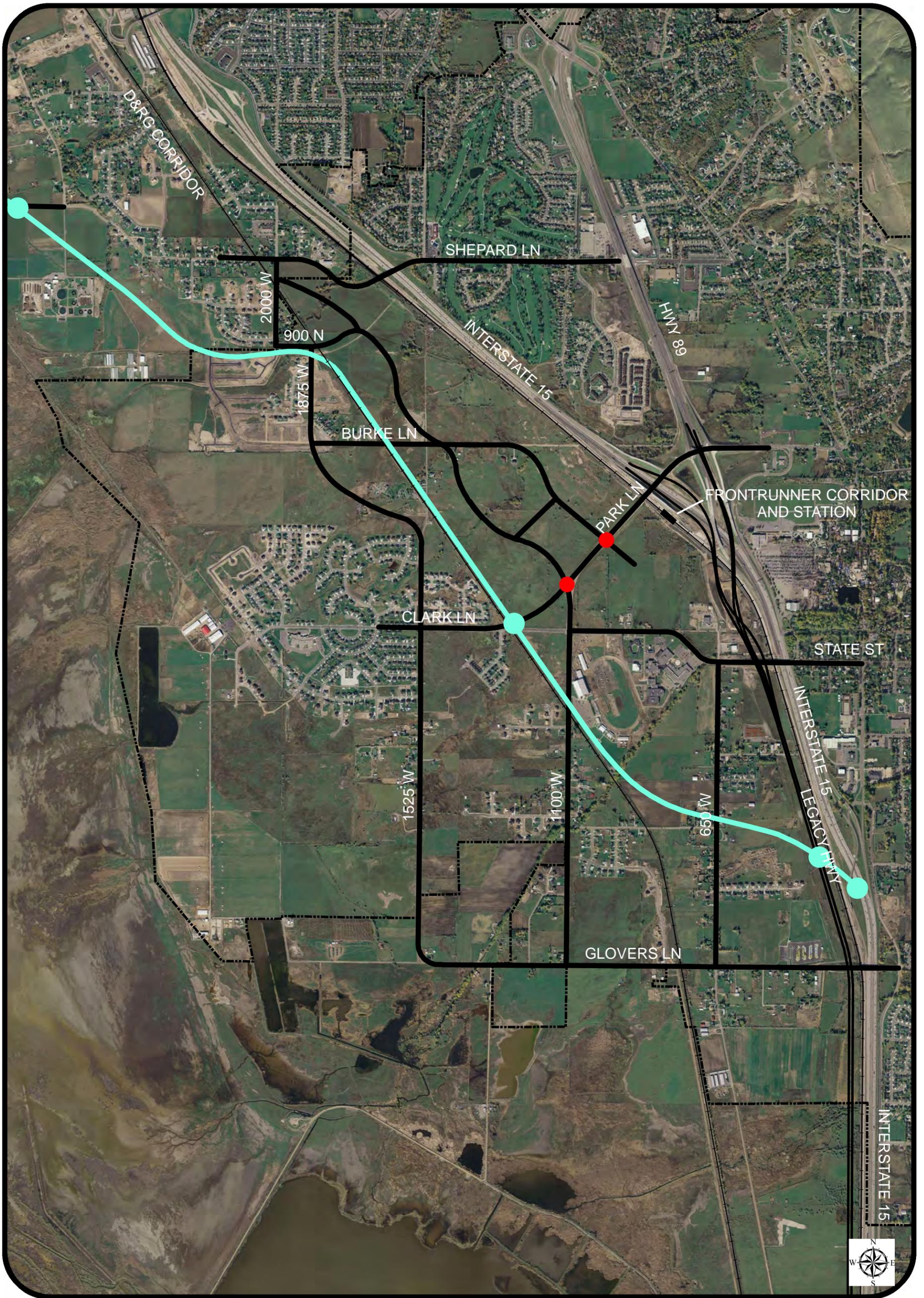




**SCENARIO I: LOCAL ACCESS INTERCHANGE AT SHEPARD LANE**

- Primary Scenario Roadways
- Interchange
- Scenario Traffic Signals
- Farmington City Boundary

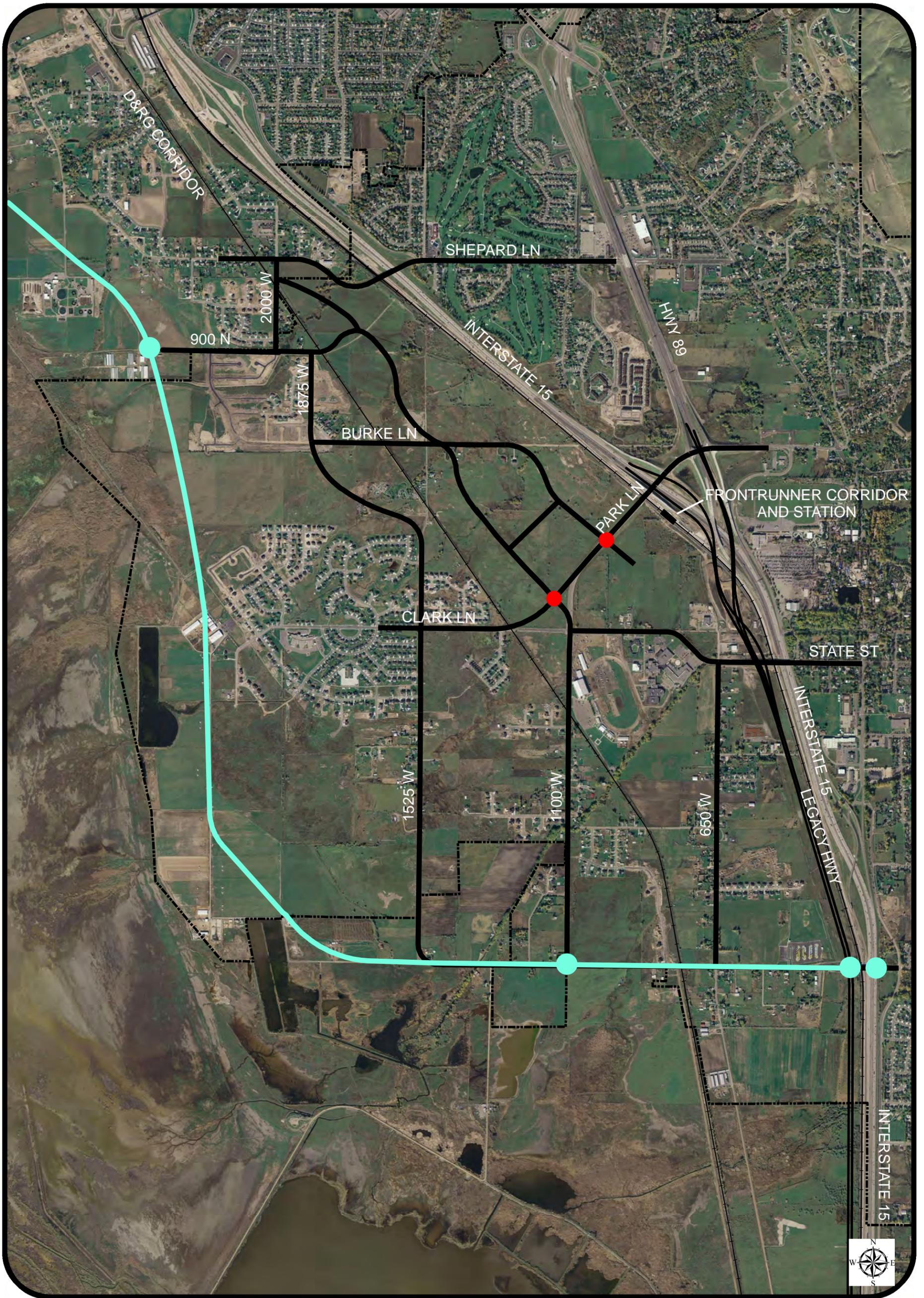




**SCENARIO II: UDOT D&RG NORTH LEGACY CONNECTOR OPTION**

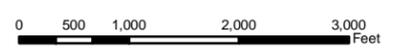
- Primary Scenario Roadways
- Interchange
- Farmington City Boundary
- Scenario Traffic Signals
- North Legacy Connector

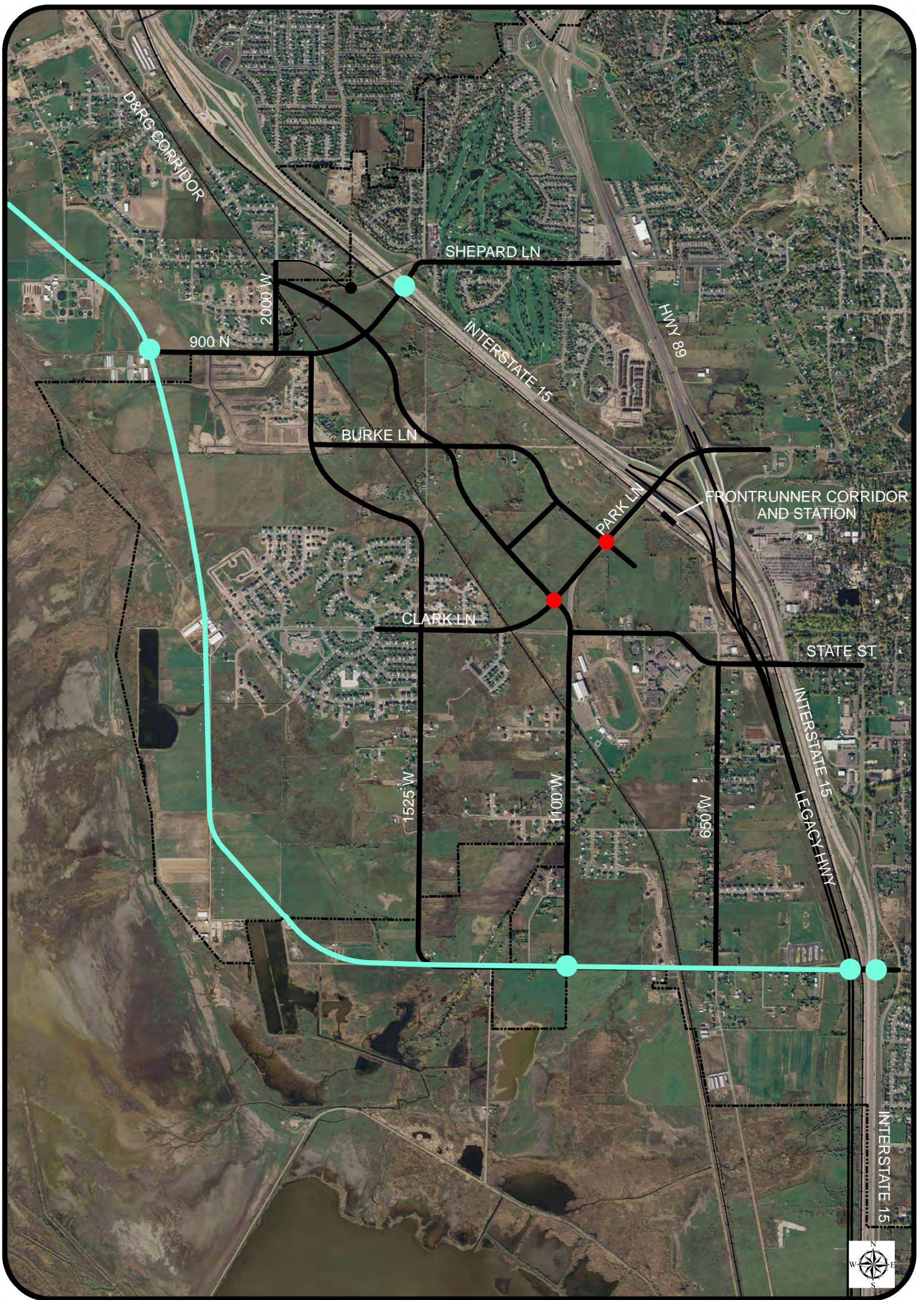




**SCENARIO III: FARMINGTON NORTH LEGACY CONNECTOR OPTION**

- Primary Scenario Roadways
- Interchange
- Scenario Traffic Signals
- North Legacy Connector
- Farmington City Boundary





**SCENARIO IV: FARMINGTON NORTH LEGACY CONNECTOR OPTION AND SHEPARD LANE LOCAL ACCESS INTERCHANGE**

Primary Scenario Roadways
  Interchange
  Farmington City Boundary
 



Scenario Traffic Signals
  North Legacy Connector

0 500 1,000 2,000 3,000 Feet

## 4.5 Traffic Conditions Analysis

Three primary questions were addressed as part of the regional roadway network analysis:

1. How would a local access interchange at Shepard Lane affect traffic on Park Lane and the section of Shepard Lane east of I-15?
2. What can be expected in terms of PM peak hour traffic operations along Park Lane with each scenario?
3. What is the difference in daily traffic volumes on North Legacy Connector with UDOT's D&RG alignment (Scenario II) as compared to the Farmington alignment (Scenarios III and IV)?

### 4.5.1 Local Access Interchange at Shepard Lane

Two key issues were explored in regards to how a local access interchange at Shepard Lane would benefit future travel demand west of I-15.

The first issue included looking at how the local access interchange would affect the volume of traffic on the critical segment of Park Lane between the Station Park access and I-15. The ability to maintain acceptable traffic operations on this segment of Park Lane in the future is of utmost importance.

The second issue involved determining how the local access interchange would affect traffic volumes on the segment of Shepard Lane in the vicinity of the Oakridge Country Club. Significant concern has been expressed in the past that a new interchange at Shepard Lane and I-15 would increase traffic volumes on this section of Shepard Lane and negatively impact the established residential character of the area.

**Table 4-1** provides a comparative summary of future two-way daily traffic volumes on key segments of roadway for each of the regional roadway network scenarios.

Scenario	Two-Way Daily Volume		
	Park Lane between I-15 and Station Park Access (2020 / 2040)	Shepard Lane mid-way between US-89 and I-15 (2020 / 2040)	I-15 between Shepard Lane and Park Lane (2020 / 2040)
Base	30,500 / 34,100	8,900 / 16,700	133,000 / 156,000
I	21,900 / 26,100	2,700 / 4,700	133,000 / 159,000
II	20,200 / 25,600	6,200 / 9,800	115,000 / 135,000
III	23,800 / 29,500	7,400 / 11,000	116,000 / 136,000
IV	20,200 / 22,300	3,100 / 4,200	115,000 / 136,000

Looking at the Base Scenario, traffic volumes on the critical segments of Park Lane and Shepard Lane will experience significant increases without improvements to the regional roadway network.

The addition of the Shepard Lane local access interchange in Scenario I results in substantial decreases in daily traffic volumes on the Park Lane and Shepard Lane critical segments when compared to the Base Scenario. The local access interchange would likely reduce the demand on Park Lane by approximately 30 percent while accommodating a significant amount of traffic associated with potential development west of I-15. In addition, direct access to I-15 at Shepard Lane will service the local travel demand east of I-15 and eliminate the need for motorists to travel east on Shepard Lane to US-89 in order to access I-15.

The lack of a North Legacy Connector in Scenario I results in substantially higher volumes on I-15 between Shepard Lane and Park Lane.

The addition of an interchange with the North Legacy Connector in the vicinity of the Park Lane/D&RG Railroad intersection in Scenario II proves a substantial benefit to Park Lane. Motorists on Park Lane would have two interchange options rather than one. However, without a Shepard Lane local access interchange, traffic volumes on the critical segment of Shepard Lane would increase and travel patterns would remain as they currently exist.

Scenario III provides a minimal benefit to reducing traffic demand on Park Lane and Shepard Lane. As with Scenario II, without a Shepard Lane local access interchange, traffic volumes on the critical segment of Shepard Lane would increase and travel patterns would remain as they currently exist.

Scenario IV shows the benefit of both the Farmington North Legacy Connector and a local access interchange at Shepard Lane. This scenario helps lower the traffic demand on Park Lane, similar to Scenario II, and also lowers the traffic demand on Shepard Lane, as was the case in Scenario I.

The regional roadway network analysis showed that a local interchange at Shepard Lane is a key to accommodating future traffic demands west of I-15.

#### 4.5.2 Traffic Operations on Park Lane

**Table 4-2** presents a comparative summary of planning level PM Peak hour corridor level-of-service by regional roadway network scenario for Park Lane.

Table 4-2: Park Lane Corridor PM Peak Hour Traffic Operations		
Scenario	Year 2020 Level of Service	Year 2040 Level of Service
Base	F	F
I	C / D	E / F
II	B / C	C / D
III	C	F
IV	B / C	C

Traffic operations on Park Lane are expected to be poor in both 2020 and 2040 without improvements to the regional roadway network. Scenarios II and IV are expected to provide the greatest benefit to traffic operations along the Park Lane corridor.

### 4.5.3 North Legacy Connector Traffic Volume Projections

**Table 4-3** presents a comparative summary of daily traffic volume projections for the North Legacy Connector with UDOT’s D&RG alignment (Scenario II) and the Farmington alignment (Scenarios III and IV).

Table 4-3: North Legacy Connector Traffic Volume Projections					
Scenario	Two-Way Daily Volume (1,000’s)				
	North Legacy Connector		I-15		Legacy Parkway
	South of Park Lane (2020 / 2040)	North of Park Lane (2020 / 2040)	South of Park Lane (2020 / 2040)	North of Park Lane (2020 / 2040)	North of North Legacy Connector Connection (2020 / 2040)
II	37.2 / 43.2	36.5 / 45	95 / 124	115 / 135	52 / 65
III	35.5 / 40.1	35.6 / 43.9	100 / 129	116 / 136	54 / 68
IV	33.9 / 43.2	33.2 / 41	101 / 128	115 / 136	57 / 70

All three scenarios are projected to accommodate a similar daily traffic volume on the North Legacy Connector, with similar impacts to traffic volumes on I-15 and the Legacy Parkway.

### 4.5.4 Traffic Conditions Summary

The following is a summary of key findings from the regional traffic conditions analysis:

- A local access interchange at Shepard Lane/I-15 in combination with the local roadway network improvements (See **Chapter 3**) would provide acceptable traffic operations on Park Lane through 2020.
- A local access interchange at Shepard Lane/I-15 should decrease traffic volumes on Shepard Lane between I-15 and US-89.
- UDOT’s D&RG North Legacy Connector option (Scenario II) results in acceptable traffic operations on Park Lane but will likely increase traffic volumes on Shepard Lane between I-15 and US-89.
- The Farmington North Legacy Connector option in combination with a local access interchange at Shepard Lane (Scenario IV) will provide acceptable traffic operations on Park Lane.
- There is a need for the North Legacy Connector.
- Daily traffic volume projections for the North Legacy Connector with UDOT’s D&RG alignment (Scenario II) are similar to those associated with the Farmington alignment (Scenarios III and IV).

## 4.6 UDOT D&RG North Legacy Connector Option

UDOT’s D&RG North Legacy Connector option (See **Figure 4-6**) as determined by the North Legacy to Legacy Connection Corridor Preservation Study, June 2007 (See **Appendix A**)

generally follows the north/south alignment of the Denver & Rio Grand Railroad corridor that bisects the area west of I-15. For the purposes of this MTP Addendum, this option is represented by Scenario II.



Figure 4-6: UDOT D&RG North Legacy Connector Option #3

Implementation of UDOT's D&RG North Legacy Connector option would result in substantial deviation from Farmington's 2005 MTP Update recommendations for the area west of I-15. As such, the City completed an independent assessment of the UDOT study, titled *Legacy North to Legacy Connection Evaluation Study* (See **Appendix B**) in September 2007.

The City's study found that there were numerous additional issues that could not be adequately addressed in a corridor preservation study. Some of these issues included:

- Obtaining formal input from the Army Corp of Engineers on wetland issues that favored the D&RG alignment option over a western alignment option.
- Additional detailed transportation system operations analysis that would include Park Lane and the surrounding transportation network in a holistic approach.
- An analysis to address public concerns related to potential noise, air quality and socio-economic impacts of an additional freeway corridor through the City.

An additional concern relates to UDOT's ability to phase construction of the D&RG alignment option should phasing be required due to funding or operational constraints. Numerous local roadways cross the D&RG alignment option significantly limiting the ability to construct an interim limited-access facility with at-grade local roadway intersections. It is most likely that UDOT would have to build the ultimate, grade-separated facility in order to accommodate the local roadway network.

Given the outstanding issues associated with UDOT's D&RG North Legacy Connector option, the City continued to focus on developing its western North Legacy Connector option.

The resulting Farmington North Legacy Connector alignment, analyzed as Scenario IV in this MTP Addendum, accomplishes the following key objectives:

- Avoids critical/important wetland areas.
- Reduces the impact of additional geographic division of the City.
- Provides acceptable traffic operations on Park Lane.
- Accommodates a travel demand similar to the D&RG alignment option.
- Does not significantly alter the City's local roadway network.
- Allows for phased construction implementation.

The Farmington North Legacy Connector alignment, as analyzed, represents the most northern and eastern limits of what the City is designating as their *Future North Legacy Connector Area* (See Figure 5-2). It is the City's strong desire that a future specific alignment be located as far south and west of the analyzed Farmington North Legacy Connector alignment as possible. Further, the City requests that State and Federal agencies make every effort to avoid existing homes and developments when selecting a specific corridor.

The Farmington North Legacy Connector alignment is included as the City's preferred most northern and eastern alignment option in this MTP Addendum based on the above bulleted points as well as the City's strong desire to locate the alignment as far south and west as possible.

Although the City has not adopted or accepted UDOT's D&RG North Legacy Connector option, they recognize UDOT's authority to pursue the acquisition of property from willing sellers within this corridor. As such, it is the City's practice to notify developers within the limits of UDOT's D&RG alignment corridor that they should confer with UDOT as a part of their development process.

## **4.7 Regional Roadway Network Recommendations**

Recommendations from the regional roadway network analysis include:

- Reconfigure Park Lane at the I-15 and US-89 interchange intersections to include a second eastbound left-turn lane.
- Replace the "Future Legacy Highway Corridor" depicted in the 2005 MTP Update with the Farmington North Legacy Connector alignment.
- Provide local roadway network connections to the Farmington North Legacy Connector interchanges at 1100 West and also 950 N.
- Provide an I-15 local access interchange and associated local roadway connections and intersection improvements in the vicinity of Shepard Lane.

## CHAPTER 5: OVERALL IMPROVEMENT SUMMARY

### 5.1 Introduction

The purpose of this Chapter is to summarize the overall MTP Addendum improvements. As mentioned in Chapter 1, many elements in the 2005 MTP Update remain unchanged in this Addendum. Most of these are related to improvements or recommendations for the area east of I-15. Both this MTP Addendum and the 2005 MTP Update recommendations that remain in effect are discussed in this chapter.

### 5.2 Roadway Functional Classification

A balance must exist in transportation planning between providing transportation facilities and maintaining an overall high quality of life for City residents and businesses. A key to maintaining this balance exists in the ability to integrate land use and transportation planning appropriately. To help accomplish this objective, the 2005 MTP Update defined a hierarchy of streets, known as Functional Classification of Streets. The functional classification scheme coincides with the system of streets already established in the Davis County area.

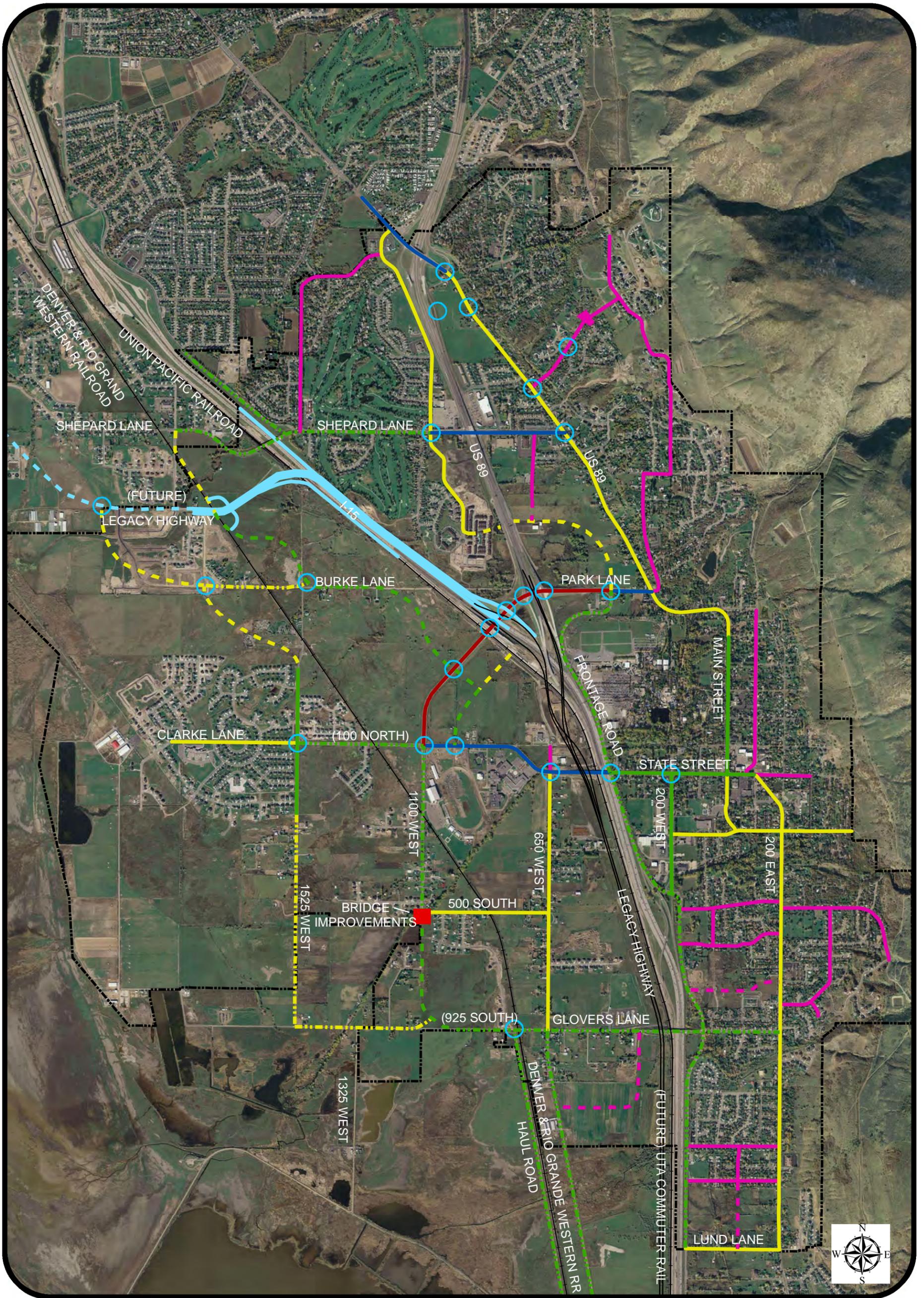
The recommended functional classification system from the 2005 MTP Update (See **Figure 5-1**) was modified to reflect the current recommended roadway function classifications. **Figure 5-2** depicts Farmington City's MTP Addendum Functional Classification System.

Farmington City's recommended functional classification system is comprised of the following five elements:

1. Major Arterials
2. Minor Arterials
3. Major Collectors
4. Minor Collectors
5. Important Local Roads

**Tables 5-1 and 5-2** identify key planning and design considerations related to the functional classification system.

Table 5-1: Farmington City Functional Classification Operational Guidelines			
Functional Class	Typical Speed (mph)	Overall Trip Length (miles)	Crash Rate (Crashes per million vehicle miles)
Major Arterial	≥45	3 – 15	3
Minor Arterial	35 – 45	2 – 3	6
Major Collector	25 – 40	< 2	8
Minor Collector	25 – 35	½ - 1½	12
Important Local	25	½ - 1	Varies



### 2005 ROADWAY FUNCTIONAL CLASSIFICATION PLAN

- |   |   |   |
|---|---|---|
| <span style="color: red;">—</span> Arterial (106') *          | <span style="color: magenta;">—</span> Important Local Road (60') *   | *NOTE: Roadways Are Designated As:  |
| <span style="color: blue;">—</span> Minor Arterial (100') *   | <span style="color: lightblue;">—</span> Future Legacy Highway  | <span style="border-bottom: 1px solid black; width: 20px; display: inline-block;"></span> Existing            |
| <span style="color: green;">—</span> Major Collector (80') *  | <span style="color: lightblue;">○</span> Intersection Improvements  | <span style="border-bottom: 1px dashed black; width: 20px; display: inline-block;"></span> Proposed Alignment |
| <span style="color: yellow;">—</span> Minor Collector (66') * | <span style="border: 1px dashed black; width: 20px; height: 10px; display: inline-block;"></span> Farmington Boundary | <span style="border-bottom: 1px dotted black; width: 20px; display: inline-block;"></span> Future Improvement |



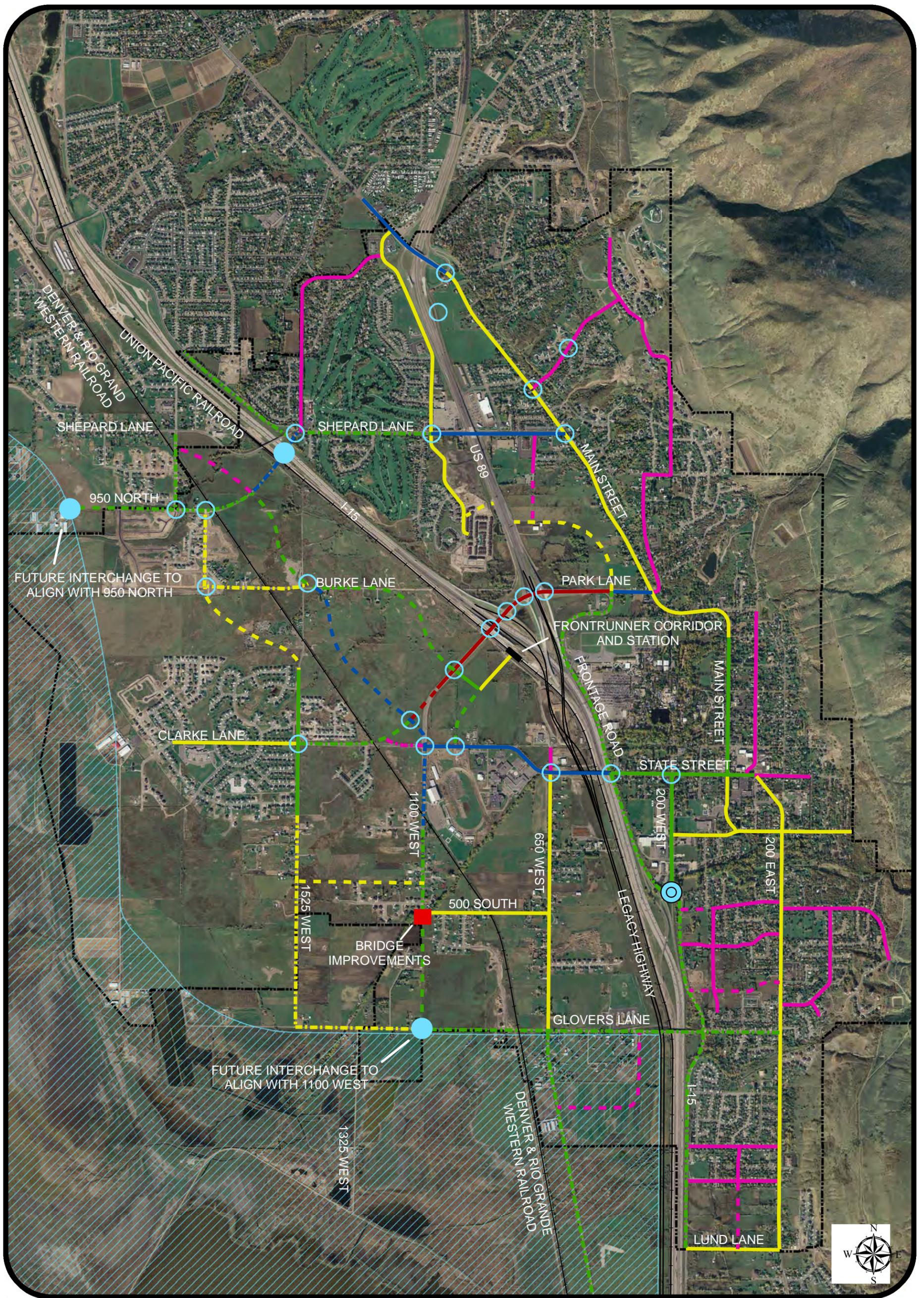
**FARMINGTON**  
Historic Beginnings - 1847



**WCEC**  
ENGINEERS



0 650 1,300 2,600 3,900 Feet



### 2009 ROADWAY FUNCTIONAL CLASSIFICATION PLAN

- |  |   |  |
|--|---|--|
| <ul style="list-style-type: none"> <li>— Arterial (106') *</li> <li>— Minor Arterial (100') *</li> <li>— Major Collector (80') *</li> <li>— Minor Collector (66') *</li> <li>— Important Local Road (60') *</li> </ul> | <ul style="list-style-type: none"> <li>▨ Future North Legacy Connector Area</li> <li>○ Intersection Improvements</li> <li>▭ Farmington Boundary</li> <li>● Future Interchange</li> <li>⊙ Interchange Reconfiguration</li> </ul> | <p>*NOTE: Roadways Are Designated As:</p> <ul style="list-style-type: none"> <li>— Existing</li> <li>- - - Proposed Alignment</li> <li>⋯ Future Improvement</li> </ul> |
|--|---|--|



FARMINGTON  
Historic Beginnings - 1847



WCEC  
ENGINEERS





Functional Class	Right-of-Way	No. of Lanes (including center lane)	Access Control	Traffic Capacity (vehicles per day)
Major Arterial	106 ft	5	Public Streets & Commercial Driveways	25,000 – 35,000
Minor Arterial	100 ft	3	Controlled Public Streets & Driveway Spacing	15,000 – 25,000
Major Collector	80 ft	3	Controlled Public Streets & Driveway Spacing	12,000 – 20,000
Minor Collector	66 ft	2	Discourage Commercial Driveways	8,000 – 12,000
Important Local	60 ft	2	Public Streets & Driveway Spacing	5,000 – 8,000

Farmington City chose cross-sections for each functional classification that maintain safety and mobility while accommodating a full range of adjacent land uses (See **2005 MTP Update Figures 5-1 and 5-2**). Although each cross-section has specific standard elements, it is important to recognize the need for flexibility in design to better accommodate adjacent land uses, place-making opportunities, and long-term growth options.

The revised functional classification system presented in Figure 5-2 incorporates several changes to the 2005 MTP Update functional classification system as follows:

- Replace the “North Legacy Transportation Corridor” depicted in the 2005 MTP Update with the Farmington North Legacy Connector alignment.
- Provide for new interchanges with the Farmington North Legacy Connector at 1100 West and also 900 North.
- Remove the 750 West southern extension and related intersection improvements at Glovers Lane and the old “haul road.” With the construction of Legacy Parkway, only the 650 West extension is planned to continue south to Parish Lane in Centerville.
- Remove the Burke Lane northwestern extension. This extension is no longer necessary to accommodate the Farmington North Legacy Connector alignment.
- Extend 900 North as a major collector from 2000 West to the Farmington North Legacy Connector alignment.
- Upgrade 900 North to a major collector between 1875 West and 2000 West.
- Realign the current Shepard Lane from 1875 West along the 2005 MTP Update North Legacy Transportation Corridor (approx. 900 North) to 1500 West, including a new local access interchange with I-15. The most westerly section of this new roadway would be a major collector with the section adjacent to the new interchange being a minor arterial.
- Realign Park Lane and Clark Lane to provide a continuous east/west connection between 1525 West and I-15.

- Relocate the traffic signal at Park Lane/1100 West/Clark Lane to the north as a part of the realignment of Park Lane and Clark Lane.
- Extend 1100 West from the D&RG railroad alignment north to Burke Lane as a minor arterial.
- Add a minor collector connection between 1525 West and 500 South at approximately 435 South.
- Provide new intersection improvements at the following intersections:
  - 950 North/2000 West
  - 950 North/1875 West
  - Shepard Lane/Frontage Road/1500 West
  - Relocated Park Lane/1100 West Intersection
  - Old Park Lane/Clark Lane/1100 West – roundabout

### 5.3 Corridor Preservation

Corridor preservation is an important transportation planning tool that agencies should use and apply to all transportation corridors. Its purpose is to protect transportation corridors from development that would conflict with the planned future implementation of the corridor. Preservation is intended to promote more consistent and less costly development of transportation facilities, minimize environmental, social, and economic impacts and give agencies the ability to develop projects in a more consistent and predictable manner. All future corridor alignments in Farmington should be preserved in accordance with the criteria found in the 2005 MTP Update (See **2005 MTP Update Sections 2.3.1, 2.8.1 and Chapter 10**).

Based on the results of the regional travel demand model, the following new corridors will be required to meet future travel demands.

#### 5.3.1 Farmington North Legacy Connector Corridor

The Farmington North Legacy Connector corridor developed by Farmington City and analyzed as Scenario IV in this MTP Addendum accomplishes the following key objectives:

- Avoids critical/important wetland areas.
- Reduces the impact of additional geographic division of the City.
- Provides acceptable traffic operations on Park Lane.
- Accommodates a travel demand similar to the D&RG alignment option.
- Does not significantly alter the City's local roadway network.
- Allows for phased construction implementation.

The Farmington North Legacy Connector alignment, as analyzed, represents the most northern and eastern limits of what the City is designating as their *Future North Legacy Connector Area* (See Figure 5-2). It is the City's strong desire that a future specific alignment be located as far south and west of the analyzed Farmington North Legacy Connector alignment as possible. Further, the City requests that State and Federal agencies make every effort to avoid existing homes and developments when selecting a specific corridor.

The Farmington North Legacy Connector alignment is included as the City's preferred most northern and eastern alignment option in this MTP Addendum based on the above bulleted points as well as the City's strong desire to locate the alignment as far south and west as possible.

Corridor preservation should begin immediately to ensure that the rapid rate of residential development in the area does not limit the ability to construct this facility in the future.

### 5.3.2 I-15 Local Access Interchange and Shepard Lane Realignment

The issue of an I-15 interchange at Shepard Lane has been raised on several occasions. However, with each proposal, the interchange concept consisted of a system-to-system interchange that connected I-15 and the North Legacy Transportation Corridor depicted in the 2005 MTP Update. As a result, the concept generated opposition from local residents who expressed concern that the resulting traffic would significantly alter the character of established neighborhoods, particularly along Shepard Lane west of I-15.

Sections 4.3.2 and 4.5.1 of this MTP Addendum explain the development of and traffic operational benefits associated with this concept.

The Shepard Lane local access interchange would provide access to the regional roadway network (I-15) while maintaining the quality and context of immediately adjacent residential land uses. It is shown to lower the traffic demand on Park Lane as well as the section of Shepard Lane between 1500 West and US-89.

The regional roadway network analysis showed that a local interchange at Shepard Lane is a key to accommodating future traffic demands west of I-15.

The Davis Weber East-West Transportation Study (UDOT Sept. 2008) includes a provision for a new interchange at Shepard Lane as a Priority 3 project (2024-2033).

The construction of an interchange at Shepard Lane would require the following:

- Approval of a new interchange by the Federal Highway Administration (FHWA)
- Completion of the environmental clearance process and associated public processes
- Relocation of Shepard Lane to be more perpendicular to I-15 and to utilize the available right-of-way west of I-15 that was preserved to accommodate the 2005 MTP Update North Legacy Transportation Corridor
- Reconfiguration of the Shepard Lane/Frontage Road/1500 North intersections to accommodate the interchange ramps and consolidate access points

In coordination with UDOT, the City should continue efforts to preserve and study this local access interchange option. Timing of the local access interchange approval and environmental processes should be closely coordinated with UDOT.

### 5.3.3 Northwestern Collector Roads

Several new collector roads will be needed to meet the demands imposed by the Farmington North Legacy Connector and the future growth west of I-15. These collector roads include the 950 North extension, the 1525 West northern extension, and the 1100 West northern extension to Burke Lane.

950 North will need to be extended as a major collector from 2000 West to the Farmington North Legacy Connector in order to accommodate a proposed interchange with the Farmington

North Legacy Connector. This alignment is in the same general location as the 2005 MTP Update North Legacy Transportation Corridor. As such, the City should work with UDOT to maintain this right-of-way for a future 950 North extension.

1525 North will need to be realigned and extended to align with 1875 West as a minor collector road. This new facility will serve as an important north/south connection between Park Lane and Shepard Lane west of the D&RG railroad corridor and eliminates the existing hazardous D&RG railroad corridor crossing located at approximately 475 North.

The 1100 West northern extension to Burke Lane is required to accommodate the significant amount of development planned for the area immediately east of the D&RG railroad corridor between Park Lane and Burke Lane. This minor arterial extension will provide a continuous primary route between Glovers Lane and Shepard Lane. In the vicinity of Park Lane/Clark Lane, corridor preservation activities should be completed in conjunction with efforts to preserve right-of-way for the Park Lane/Clark Lane Realignment (See Section 5.3.5).

#### **5.3.4 650 West Southern Extension**

The 650 West southern corridor extension is an important element of this MTP Addendum that addresses the growing north/south regional travel demand west of I-15. Farmington City should work diligently with Davis County to preserve the corridor.

The extension of 650 West is planned to occur on the eastern side of and parallel to the D&RG railroad corridor between Glovers Lane and Parish Lane via 1250 West in Centerville. A grade separated crossing of Legacy Parkway at approximately 1050 North/1250 West in Centerville was constructed to accommodate this future connection. This major collector connection will provide a continuous north/south travel option on the west side of I-15 from Parish Lane to State Street/Clark Lane in Farmington.

#### **5.3.5 Park Lane to Clark Lane Realignment**

The Park Lane to Clark Lane realignment will provide a continuous east/west connection between 1525 West and I-15 while providing opportunity to best accommodate north/south mobility and access (1100 West, etc.).

Farmington City should continue to work with UDOT and adjacent developers to more precisely define the alignment and associated intersection locations and preserve right-of-way for the realignment corridor.

### **5.4 Intersection Improvements**

Several intersections will require improvements as Farmington continues to grow and develop. Intersection improvements could include the construction of traffic signals, addition of turn lanes, or other geometric modifications to improve safety.

Several intersections were identified where issues of safety and/or high traffic volumes will warrant improvements. Through continued evaluation of these intersections, intersection improvements can be made in a timely manner. It is recommended that the City work to identify and improve these and additional intersections as a part of the City's continued traffic monitoring program.

---

## 5.4.1 Traffic Operations

### 5.4.1A 400 West/State Street and 400 West/Frontage Road Intersections

The present access to the Frontage Road (Lagoon Drive) from State Street, via 400 West is not maintained or marked adequately for motorists to perceive it as a viable alternate route to 200 West. Traffic impacts for residents adjacent to the historic section of State Street as well as pedestrian conflicts adjacent to Farmington Junior High School would benefit from a more direct connection to the frontage road.

The 2005 MTP Update recommended that a new signalized intersection be developed at State Street and the Frontage Road. This new intersection would increase access to the Frontage Road via State Street while allowing the north/south mobility of the Frontage Road to be maintained. Access to properties adjacent to 400 West would be provided via the 400 West/Frontage Road intersection (See **Figure 11-3 of the 2005 MTP Update**).

This improvement should be considered when the section of the I-15/State Street bridge structure and pedestrian overpass are widened or replaced.

### 5.4.1B 200 West/Frontage Road/I-15 Access

One of the main objectives of the Farmington 2005 MTP Update was to increase north/south mobility options through the city by developing a continuous frontage road system. Currently, the frontage road system in Farmington is discontinuous. The 200 West roadway precludes the Frontage Road as an option for continuous north/south travel through the city. Traveling north, the southern frontage road system ends at 200 West where vehicles must either turn north onto 200 West or south onto the southbound I-15 on-ramp. The north frontage road system is composed of a free flow northbound movement that comes directly from the I-15 northbound grade-separated off-ramp and a southbound movement that turns into the southbound I-15 on-ramp. The northbound I-15 off-ramp also has a free flow movement directly onto 200 West.

In order to connect the frontage road system, the 2005 MTP Update looked at several alternatives including grade separated and at-grade intersection options. The recommended option (See **Figure 11-4 of the 2005 MTP Update**) would combine the I-15 on and off-ramps, the southern and northern Frontage Road system and 200 West into a simple four-leg signalized intersection with a dedicated free-moving right turn for the southbound I-15 on-ramp. This configuration will require the realignment and reconstruction of the existing southbound I-15 on-ramp overpass structure.

Due to the high costs of the overpass structure that would be required, the 2005 MTP Update mentioned that this alternative might not be economically feasible. Farmington should continue coordination with UDOT on the timing of the project and the availability of federal and/or state funds. Aesthetics associated with this project will be an important issue given the location of the project as a “gateway” to the City. As such, any design must meet the City’s criteria for streetscape or other aesthetic considerations.

### 5.4.1C South Mountain Road and Main Street

Referred to as Northridge Road in the 2005 MTP Update, South Mountain Road intersects Main Street approximately 400 feet south of the US-89 northbound on and off-ramp intersection. Increased travel demands on Main Street as well as the traffic volumes on South Mountain Road have made access to north Main Street difficult during peak periods. The resulting motorist delays on South Mountain Road decrease the overall level-of service

and safety of the intersection. To address these issues, the 2005 MTP Update considered two primary alternatives, signalization and a roundabout. Subsequent traffic studies related to the adjacent proposed Village at Old Farm development also considered these alternatives.

Signalization of this intersection was originally not recommended due to the proximity of the intersection to the US-89 interchange. However, a more detailed evaluation has since been completed with the recommendation that the intersection be signalized and that the signalization controls be coordinated with the adjacent interchange intersections.

#### 5.4.1D Park Lake/Clark Lane/1100 West Relocation

This intersection improvement represents the relocation of the existing signalized intersection as a part of the Park Lane/Clark Lane realignment. The relocation will provide a second signalized intersection on Park Lane and allows continuous north/south travel across the corridor. As currently configured, Park Lane will only accommodate one signalized intersection for a north/south roadway between I-15 and Clark Lane based on UDOT access management provisions.

The City completed a study in December 2008 titled *Farmington Shivas Property Traffic Impact Study* (See **Appendix E**) that includes a detailed traffic operations analysis of this intersection and provides specific improvement recommendations needed to accommodate the future traffic demand.

As a part of the analysis, it was recommended that the intersection be signalized and configured to accommodate two through lanes, two separate left-turn lanes and a separate right-turn lane on all approaches.

With the realignment of Park Lane and Clark Lane and the associated relocation of the traffic signal, the study further recommended that the Clark Lane/State Street/1100 West intersection be reconstructed as a two-lane roundabout. A roundabout was found to best accommodate the future traffic demand and intersection turning movements. Issues associated with intersection spacing and vehicle queuing result in unacceptable traffic operations if a traffic signal were to be installed.

Farmington City should continue to work with UDOT and adjacent developers to more precisely define the intersection location and preserve right-of-way for the realignment corridor and intersections.

### 5.4.2 Safety

An assessment of Farmington City intersections as a part of the 2005 MTP Update identified locations that require improvements based on inadequate sight distance. Evaluation of these intersections indicates that inadequate sight distance contributes to a possibly hazardous situation. It is recommended that the City take measures to provide for a more detailed evaluation of solutions including geometric reconfiguration, signing and striping improvements, or signalization at the following intersections:

- Main Street and 1400 North
- 1400 North and Cherry Blossom Drive
- Main Street and Somerset Street
- 1525 West and D&RG Railroad Corridor crossing

## **5.5 Access Management and Traffic Calming**

The 2005 MTP Update provides recommendations related to access management and traffic calming (See **2005 MTP Update Sections 11.3 and 11.4**).

Implementation of access management principles are recommended for the Frontage Road (Lagoon Drive), Park Lane, and the 1100 West extension.

Implementation of traffic calming principles is recommended for 200 West and State Street in accordance with the 2005 MTP Update.