



SPRINGVILLE CITY
IMPACT FEE FACILITIES PLAN



HORROCKS
ENGINEERS

2016

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IMPACT FEE FACILITIES PLAN

Introduction

The purpose of an Impact Fee Facilities Plan (IFFP) is to identify public facilities that are needed to accommodate development and to determine which projects may be funded with impact fees. Utah law requires communities to prepare an IFFP prior to preparing an impact fee analysis and establishing an impact fee. According to Title 11, Chapter 35a-302 of the Utah Code, the IFFP is required to identify the following:

- **The existing level of service (LOS)**
- **A proposed LOS**
- **Any excess capacity to accommodate future growth beyond the IFFP horizon year at the proposed LOS**
- **The demands placed on existing public facilities by new development**
- **A proposed means by which the local political subdivision will meet those demands**
- **A general consideration of all potential revenue sources to finance the impacts on system improvements**

This analysis incorporates the information provided in the 2016 Springville Transportation Master Plan (TMP) regarding the upcoming demands on the existing infrastructure facilities that will require improvements to accommodate future growth and provide an acceptable LOS. The TMP provides additional detail regarding the methodology used to determine the future travel demand.

This document focuses on the improvements that are projected to be needed over the next ten years. Utah law requires that any impact fees collected for those improvements be spent within six years of being collected. Only capital improvements are included in this plan; all other maintenance and operation costs are assumed to be covered through the City's General Fund as tax revenues increase as a result of additional development.

Existing Level of Service (11-36a-302.1.a.i)

According to the Impact Fee Act, level of service is defined as “the defined performance standard or unit of demand for each capital component of a public facility within a service area.” The LOS of a roadway segment or intersection is used to determine if capacity improvements are necessary. LOS is measured on a roadway segment using its daily traffic volume and at an intersection based on the average delay per vehicle. A standard of LOS D is a generally accepted LOS standard for urban areas and is used as the standard for Springville City. This allows for speeds at or near free-flow speeds, but with some congestion during the peak times of the day. At intersections, LOS D means that vehicles should not have to wait more than one cycle to proceed through the intersection and experience delays less than 35 seconds,

according to the Highway Capacity Manual 2010. **Table 1** below summarizes the maximum capacities for roadway segments used by the City of Springville.

Table 1: LOS D Capacity Criteria in Vehicles per Day

Lanes	Arterial	Collector
2	NA	5,000
3	NA	11,500
5	30,500	NA
7	46,000	NA

Intersection Standards

The performance of intersections has a large effect on the level of service of the roadway network. Intersections have different stop controls such as: no control, stop control, signal, roundabout, or yield. The level of service for each type of intersection is calculated depending on its control type. Intersection improvements will be necessary in order to maintain the desired level of service. One method to reduce costs is to coordinate the placement of signal wiring, foundations, and other features, with roadway construction before the placement of the actual traffic signals and other elements are needed. The costs of these intersection improvements have been included in the roadway network cost estimates in **Table 3**. The total costs for the full installation of these intersection improvements may be postponed depending on the specific needs of the intersections in the future.

Trips

The unit of demand for transportation impact is the PM peak hour trip. A PM peak hour trip is defined by the Institute of Transportation Engineers (ITE) as a single or one-directional vehicle movement to or from a site between the hours of 4 PM and 6 PM. The total traffic impact of a new development can be determined by the sum of the total number of trips generated by a development during the PM peak hour. This trip generation number or impact can be estimated for an individual development using the ITE Trip Generation Manual (currently 9th edition). This publication uses national data studied over decades to assist traffic engineering professionals to determine the likely impact of new development on transportation infrastructure.

There is a minor discrepancy in the way ITE calculates trips and the way trips or roadway volumes are calculated in the travel demand model used in the Springville TMP. This discrepancy is explained by the model roadway volumes and capacities being calculated using daily traffic volumes rather than trips on the roadway. Essentially, this means that a travel demand model “trip” or unit of volume is counted once as a vehicle leaves home, travels on the road network, and then arrives at work. This vehicle will only be counted as it travels on the roadway network. The ITE Trip Generation method uses driveway counts as its measure of a trip. Therefore, a vehicle making the same journey will be counted once as it leaves home and once again as it arrives at work for a total of two trips. This can be rectified simply by adjusting the ITE Trip Generation rates by one half, this calculation will be evident in the IFA.

An additional consideration is that certain developments do not generate primary trips or trips that originated for the sole purpose of visiting that development. An example of a primary trip is a home based work trip where someone leaves their house with the express purpose of going to work. This primary trip has been generated by a combination of the home the trip originated in and the place of occupation where

the trip is terminated. Thus, it is easily understood that the impact of this trip should be attributed to the housing development and workplace development since without either of these locations, the trip doesn't happen. Some trips are not primary trips, they are defined as pass-by trips. This means that the trip (crossing the driveway of a development) was generated by a driver deciding to make a stop on their way to their primary destination. Good examples of pass-by trips are someone that stops at the gas station on their way to work (a gas station is a pass-by trip) or a driver that is enticed to stop at a fast food restaurant as they drive by because the "HOT DONUTS" sign is illuminated (the fast food restaurant is a pass-by trip). Pass-by trips do not add traffic to the roadway and, therefore, do not create additional impact. Each land use type in the ITE Trip Generation Manual has a suggested reduction for pass-by trips where applicable. In each case, the trip reduction rate will be applied to the trip generation rate used in this IFA.

System Improvements and Project Improvements

As described in the TMP, there are four primary classifications of roads, which include local streets, collectors, arterials, and freeways/expressways. The City of Springville classifies street facilities based on the relative amounts of through and land-access service they provide. Local streets primarily serve land-access functions, while freeways and expressways are primarily meant for mobility. Each classification may have a variable amount of lanes, which is a function of the expected traffic volume and serves as the greatest measure of roadway capacity.

Improvements to collectors and arterials are considered "system improvements" according to the Utah Impact Fee Law, as these streets serve users from multiple developments. System improvements may include anything within the roadway, such as curb and gutter, asphalt, road base, lighting, and signing for collectors and arterials. These projects are eligible to be funded with impact fees and are included in this IFFP.

Proposed Level of Service (11-36a-302.1.a.ii)

The proposed level of service provides a standard of evaluation for future roadway conditions. This standard will determine whether or not a roadway will need improvements. According to the Utah Impact Fee Law, the proposed level of service may:

1. Diminish or equal the existing level of service
2. Exceed the existing level of service if, independent of the use of impact fees, the political subdivision or private entity provides, implements, and maintains the means to increase the existing level of service for existing demand within six years of the date on which new growth is charged for the proposed level of service; or
3. Establish a new public facility if, independent of the use of impact fees, the political subdivision or private entity provides, implements, and maintains the means to increase the existing level of service for existing demand within six years of the date on which new growth is charged for the proposed level of service.

This IFFP will not make any changes to the existing level of service, and LOS D will be the standard by which the impacts of future growth will be evaluated.

Existing Capacity to Accommodate Future Growth (11-36a-302.1.a.iii)

An important element of the IFFP is the determination of excess capacity on the roadway network. Excess capacity is defined as the amount of available capacity on any given street in the roadway network under existing conditions. This capacity is available for new development in the city before additional infrastructure will be needed. This represents a buy-in component from the City as the existing residents/property owners have already paid for these improvements. New roads do not have any excess capacity and roads which are not under City jurisdiction have their capacity information removed from the calculations.

Demands Placed on Facilities by New Development (11-36a-302.1.a.iv)

To meet the requirements of the Utah Impact Fee law, to “identify demands placed upon existing public facilities by new development activity at the proposed level of service” and to “identify the means by which the political subdivision or private entity will meet those growth demands”, the following steps were completed and are explained in further detail in the following sections:

1. **Existing Demand-** The traffic demand at the present time was estimated using traffic counts and population data.
2. **Existing Capacity-** The capacity of the current roadway network was estimated using the calculated LOS.
3. **Existing Deficiencies-** The deficiencies in the current network were identified by comparing the LOS of the roadways to the LOS standard.
4. **Future Demand-** The future demand on the network was estimated using development projections.
5. **Future Deficiencies-** The deficiencies in the future network were identified by comparing the calculated future LOS with the LOS standard.
6. **Recommended Improvements-** Recommendations were made that will help meet future demands.

Existing Roadway Network Conditions

Conversions of Growth and Development Projections to Trip Generations

The basis of the future travel demand was projected using the Mountainland Association of Governments (MAG) Travel Demand Model. The inputs to the model consist of socio-economic and land use data provided by MAG and the City. The outputs from the model include peak hour trips and daily traffic volumes on each of the roadways in the network. The MAG Travel Demand Model was calibrated to existing traffic conditions in the City of Springville. Traffic counts for state roads were collected from UDOT and include annual average daily traffic (AADT) volumes as defined in *Traffic on Utah Highways*. On City owned roadways, traffic counts were either provided by the City of Springville or were manually counted as part of the TMP. **Figure 1** shows the count locations throughout the City used for model calibration.

Existing Functional Classification and Level of Service

The existing functional classification used in the MAG Travel Demand Model is shown in **Figure 2**. The LOS was calculated for each roadway according to the guidelines explained in the Level of Service section and a LOS map is included in **Figure 3**

Using LOS D as the threshold for roadway improvements in **Figure 3** (Indicated by red lines), the following shows the roadways that have existing capacity deficiencies:

Roadway Elements at or below LOS E:

- **400 South** (Main Street to Brookside Drive)
- **400 South & Main Street** (Traffic Signal)

In most cases, roadway capacity improvements are achieved by adding travel lanes. In some cases additional capacity can be gained by striping additional lanes where the existing pavement width will accommodate it. This can be accomplished by eliminating on street parking, creating narrower travel lanes, and adding two-way left turn lanes where they don't currently exist. For all roadway capacity improvements, it is recommended to investigate other mitigation methods before widening the roadway.

Impact Fees cannot be used to mitigate existing deficiencies. As such, the projects listed in **Table 2** are the projects included in the IFFP, but the impact fee eligible portion collected may be reduced to mitigate the existing deficiency.

Table 2 Roadways and Intersections with Existing Deficiencies

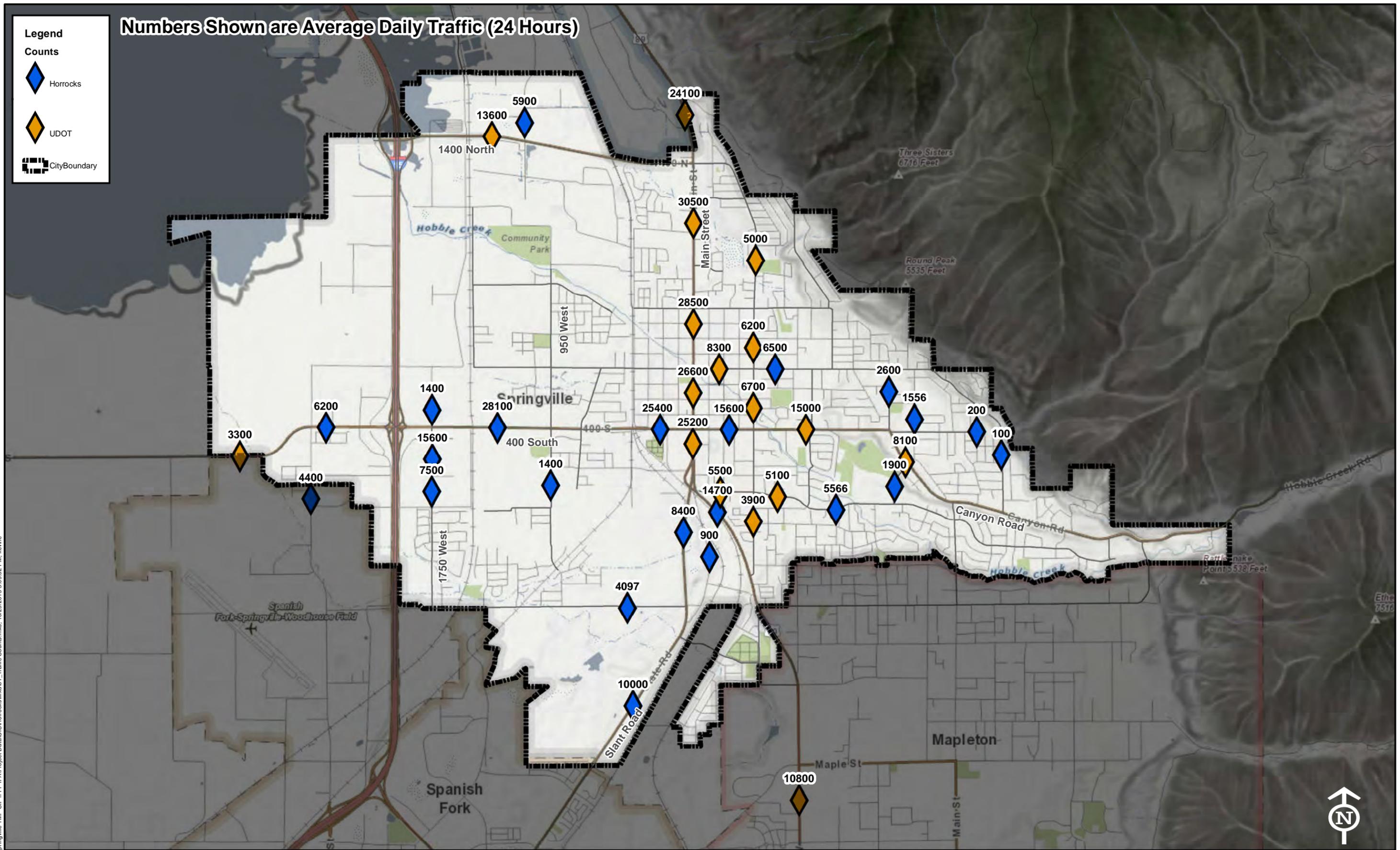
Project #	Location	Existing Capacity	Existing Volume
10	400 South – Main Street to 400 E.	11,500	15,600
24	400 South & Main Street Traffic Signal	LOS E or Worse	

Numbers Shown are Average Daily Traffic (24 Hours)

Legend

Counts

-  Horrocks
-  UDOT
-  City Boundary



O:\2014\PG-103-1409 Springville TMP CIP IFFP IFA\Project Data\GIS\Horrocks\Mxd\01_Traffic Counts.mxd, 10/29/2015 3:09:32 PM, kevinc



2162 West Grove Parkway
Suite 400
Pleasant Grove, UT 84062
(801) 763-5100

Springville Transportation Master Plan Traffic Count Locations



DATE	10/29/2015
DRAWN	KJC
Figure 1	

Legend

Intersections



Signalized Intersection



Interchange



Roundabout



Existing, RR Crossing

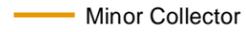
Existing Roadway Network



Principal Arterial



Major Arterial



Minor Collector



Commercial Local

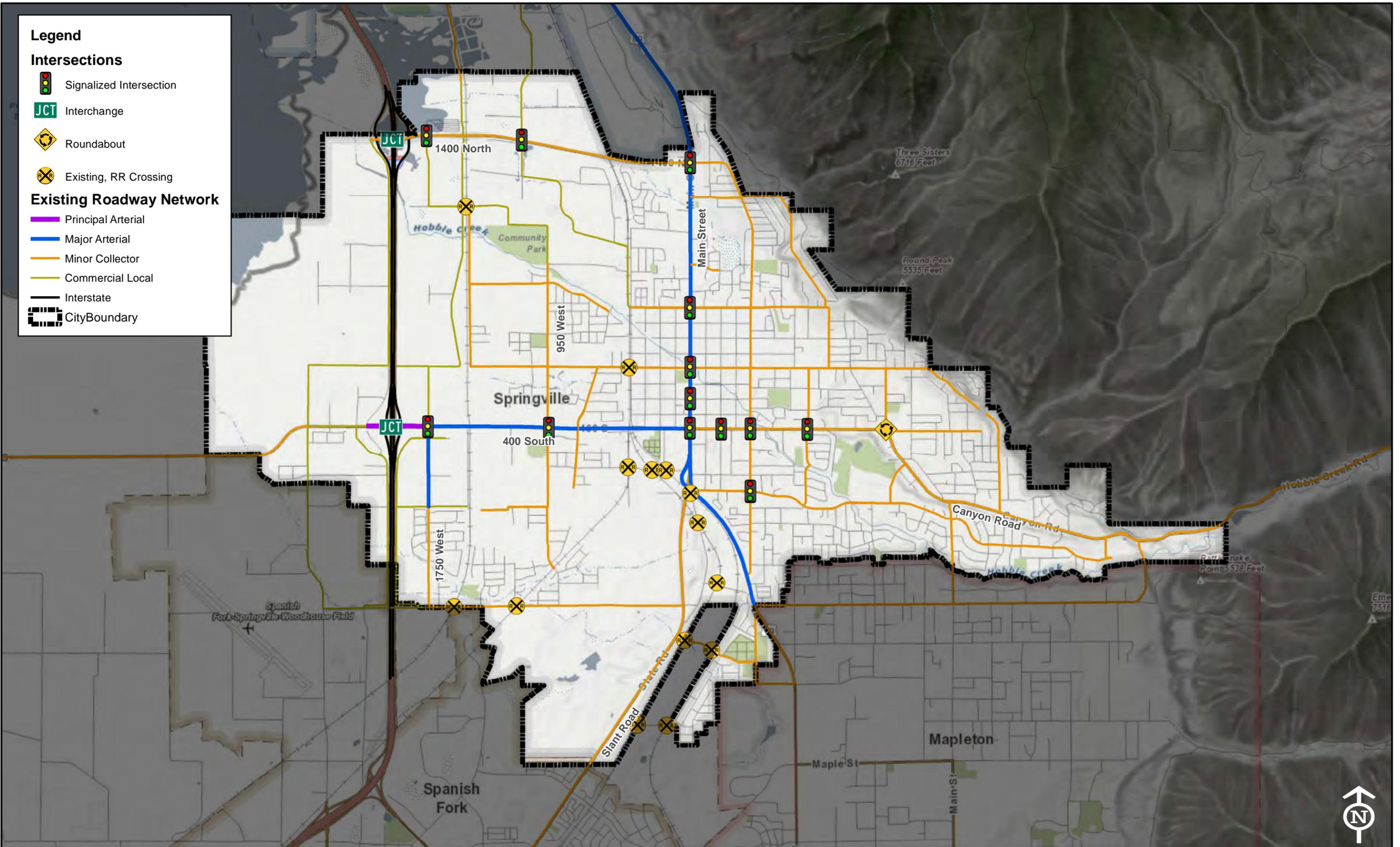


Interstate



City Boundary

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Springville Transportation Master Plan
Existing Functional Class



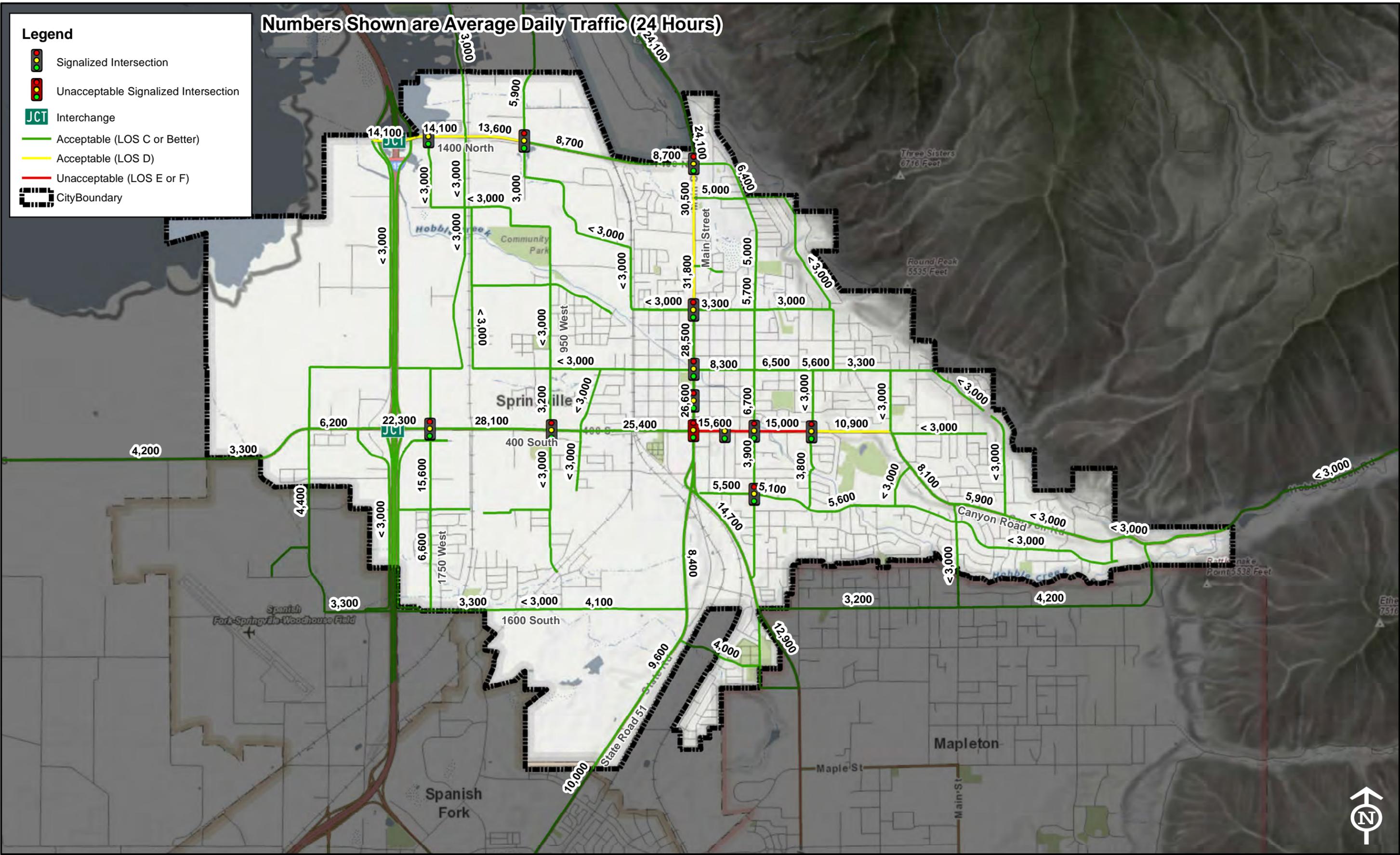
DATE	9/29/2016
DRAWN	KJC
Figure 2	



Numbers Shown are Average Daily Traffic (24 Hours)

Legend

-  Signalized Intersection
-  Unacceptable Signalized Intersection
-  Interchange
-  Acceptable (LOS C or Better)
-  Acceptable (LOS D)
-  Unacceptable (LOS E or F)
-  City Boundary

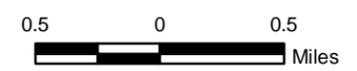


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Springville Transportation Master Plan
Existing Level of Service



DATE	9/29/2016
DRAWN	KJC
Figure 3	



Future Roadway Network Conditions

By calibrating the MAG Travel Demand Model to the existing traffic conditions in the City of Springville, the model is prepared to project traffic volumes into the future. Two modeling scenarios were analyzed. The first identified potential capacity deficiencies by projecting traffic conditions assuming no roadway improvements are made (no-build condition). The second scenario includes proposed projects that will mitigate the deficiencies identified in scenario one.

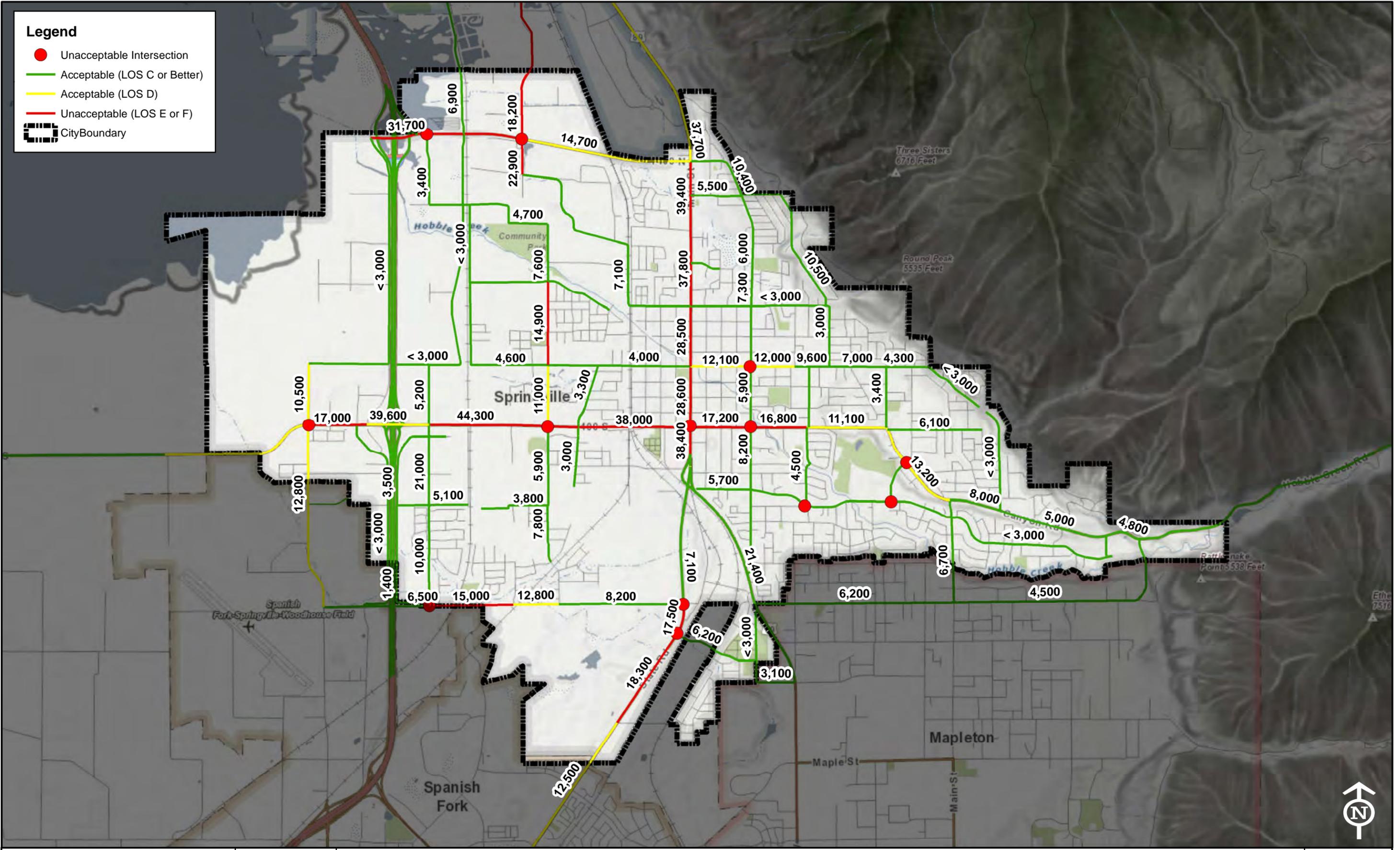
No Build Level of Service

A no-build scenario is intended to show what the roadway network would be like in the future if no action is taken to improve the City roadway network. The travel demand model was again used to predict this condition by applying the future growth and travel demand to the existing roadway network. As shown in [Figure 4](#), the following roadway elements will perform at LOS E or worse if no action is taken to improve the roadway network:

- **1400 North** (I-15 to 1100 West)
- **1200 West** (Northern Border to Spring Creek Road)
- **Main Street** (1400 North to 700 South)
- **950 West** (550 North to Center Street)
- **400 South** (2600 West to I-15 & 1750 West to 800 East)
- **1600 South** (1750 West to Wallace Drive)
- **State Street (SR-51)** (1600 South to 5400 South)
- **1400 North (SR-75) & 1750 West** (Traffic Signal)
- **1400 North (SR-75) & 1100 West** (Traffic Signal)
- **Center Street & 400 East** (Stop Controlled Intersection)
- **400 South & 2600 West** (Stop Controlled Intersection)
- **400 South & 950 West** (Traffic Signal)
- **400 South & Main Street** (Traffic Signal)
- **400 South & 400 East** (Traffic Signal)
- **1600 South & State Street** (Stop Controlled Intersection)
- **State Street & Evergreen Drive** (Stop Controlled Intersection)
- **Canyon Road & 620 South** (Stop Controlled Intersection)
- **900 South & 1300 East** (Stop Controlled Intersection)
- **900 South & 800 East** (Stop Controlled Intersection)

Legend

- Unacceptable Intersection
- Acceptable (LOS C or Better)
- Acceptable (LOS D)
- Unacceptable (LOS E or F)
- CityBoundary



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Springville Transportation Master Plan
2040 No Build Level of Service



DATE	9/29/2016
DRAWN	KJC
Figure 4	

10-Year Improvement Plan

Although projects will be completed as growth and development occurs throughout the City, the existing and no build scenarios are used as a basis to predict the necessary projects to include in the IFFP. For the purposes of this IFFP, only projects that will be completed within the next ten years will be considered. **Table 3** shows the projects that are forecasted to be needed in the next ten years. **Table 3** includes all of the projects regardless of their eligibility for impact fee expenditure. The portion of the project that is impact fee eligible is indicated in the **Impact Fee Eligible** and **Springville Total** columns. **Figure 5** shows the projects needed between now and 2025 to meet the demands placed on the roadway network by new development.

Infrastructure Required to Meet Demands of New Development (11-36a-302.1.a.v)

Project Cost Attributable to Future Growth

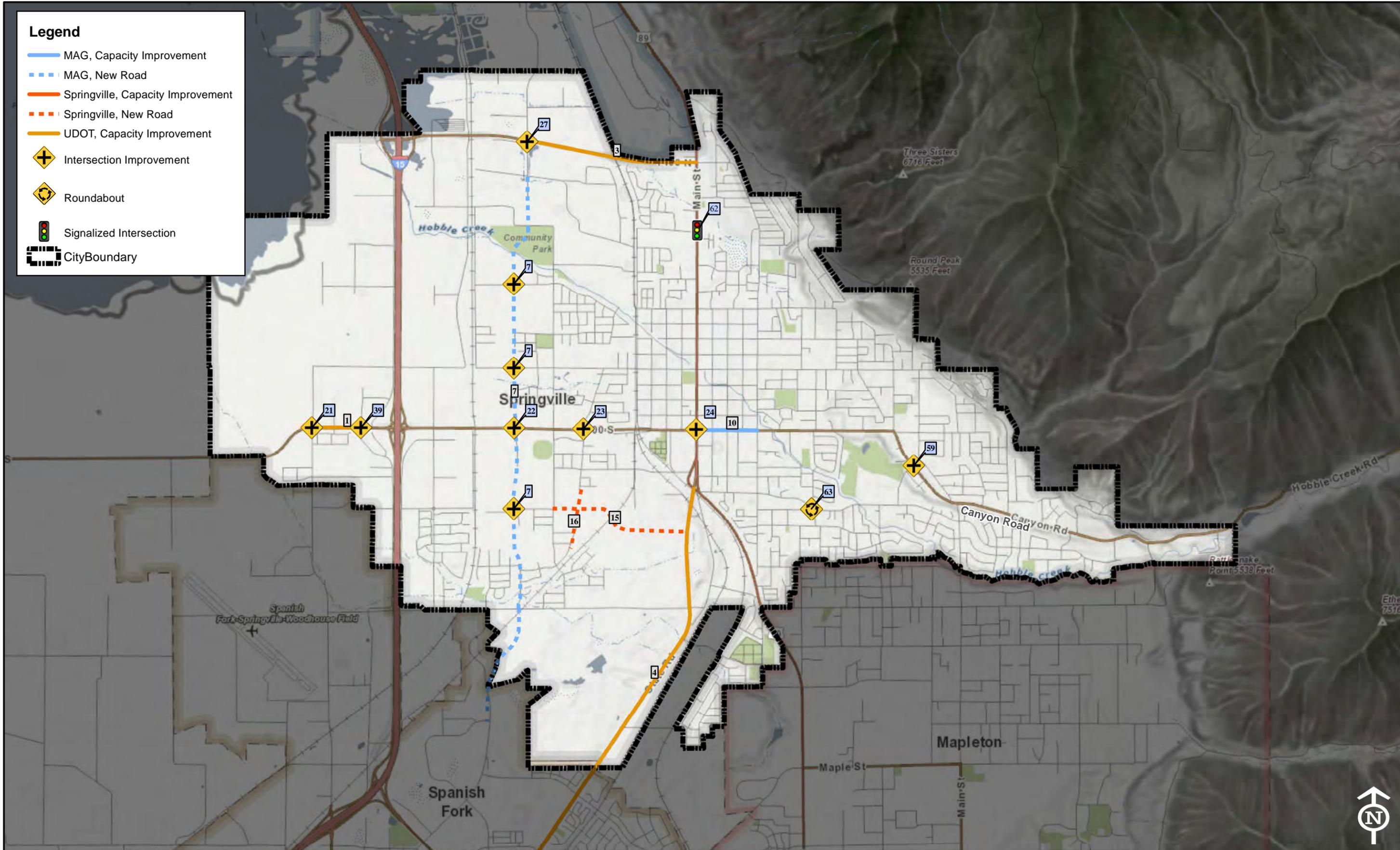
Table 3 shows the project costs attributable to new growth as a percentage of the total project costs, as defined in the previous section. Each project in **Table 3** would be needed due to future growth but the cost that should be shared by new development through the assessment of impact fees varies depending on the road jurisdiction, the funding available, and the roadway classification. There are roadways in Springville included in MAG's transportation Improvement Program (TIP). For those projects, a 6.77% match is required to receive funding assistance. If Springville receives funding assistance, only the 6.77% match is impact fee eligible. UDOT projects will be funded entirely with state funds and are therefore not eligible for impact fee expenditure. Road widening projects are considered 100% impact fee eligible, as any work on these roads will only be needed as traffic increases as a result of new development. New city-owned roads are variable depending on the road classification. The cost attributable to new growth and potentially impact fee eligible is defined as the portion of the roadway cross section in excess of the minimum standards for both a local and commercial local street (the determination of local versus commercial local is based on the Land Use Plan). This is based on the premise that a local or commercial local cross section serves the needs of the localized development which directly access the new road. This portion will be paid for by the individual development, which accesses the new road. Any improvement due to growth that requires a cross section beyond a local street would be considered a system improvement and is therefore impact fee eligible. The City responsibility cost for each new road is determined as the percentage of the total project cost beyond a local street classification. For example, a Minor Collector Street is 15% and 6% more costly than a local street and commercial local street respectively so the City responsible (impact fee eligible) portion of a new Minor Collector is 15% or 6% based on the Land Use plan. Detailed cost estimates can be found in **Appendix A – Cost Estimates**.

There are additional costs included in each cost estimate based on a percentage of the construction costs. The four additional costs are **contingency**, **mobilization**, **preconstruction engineering**, and **construction engineering**. The percentages used for the additional costs may vary as these values are estimated for each individual project. These estimates are based on the concept cost estimate values used by UDOT. **Contingency** accounts for the items not estimated during the concept cost estimate. Examples include utility placement and surveying. **Contingency** costs can range up to 15% based on the number of items not estimated. **Mobilization** is the preparation made by the contractor before construction begins on a

project. Springville will use the UDOT recommended mobilization value for local projects at 10% of the construction cost. **Preconstruction** engineering is based on the complexity of the project as well as the construction costs. For local projects the preconstruction costs can range up to 16% of the construction costs based on UDOT cost estimating. For the cost estimates included in this IFFP, a value of 8% was used. **Construction engineering** includes the construction management and additional design necessary during construction. Recommended costs for local projects are up to 16% and a value of 8% was used for the cost estimates included in the IFFP.

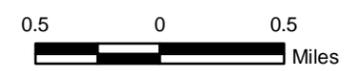
Legend

- MAG, Capacity Improvement
- - - MAG, New Road
- Springville, Capacity Improvement
- - - Springville, New Road
- UDOT, Capacity Improvement
-  Intersection Improvement
-  Roundabout
-  Signalized Intersection
-  City Boundary



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Springville Transportation Master Plan
2025 IFFP Projects



DATE	10/5/2016
DRAWN	TRB
Figure 5	



Table 3: Impact Fee Facilities Plan 2015-2025

Project	Location	Total Price	Funding Source	Impact Fee Eligible	Springville City Total
1	400 South Widening: I-15 to Spanish Fork Main Street	\$3,095,000	UDOT	0%	\$0
3	1400 North Widening: I-15 to Main Street	\$29,783,000	UDOT	0%	\$0
4	SR-51 Widening: Main Street to Southern Border	\$16,861,000	UDOT	0%	\$0
7	1200 West: 1400 North to Southern Border	\$40,035,000	Springville/MAG	6.77%	\$2,711,000
10	400 South Widening: Main Street to 400 East	\$2,768,000	Springville/MAG	6.77%	\$188,000
15	900 South Extension to SR-51	\$5,188,000	Springville	16%	\$855,000
16	Connection of Mattea Lane & 750 West	\$2,097,000	Springville	16%	\$346,000
21	Intersection Improvement: 400 South & 2060 West	\$254,000	UDOT	0%	\$0
22	Intersection Improvement: 400 South & 1200 West	\$254,000	UDOT	0%	\$0
23	Intersection Improvement: 400 South & Wood Springs Dr.	\$254,000	UDOT	0%	\$0
24	Intersection Improvement: 400 South & Main Street	\$254,000	UDOT	0%	\$0
27	Intersection Improvement: 1400 North & 1200 West	\$254,000	UDOT	0%	\$0
39	Intersection Improvement: West of 400 South Interchange	\$254,000	UDOT	0%	\$0
59	Roundabout: Canyon Road and 620 South	\$705,000	Springville	100%	\$705,000
62	Traffic Signal: Main Street & 900 North	\$254,000	UDOT	0%	\$0
63	Roundabout: 900 South and 800 East	\$705,000	Springville	100%	\$705,000
Total		\$103,015,000			\$5,510,000

Project Cost Attributable to 10-Year Growth

Using the travel demand model mentioned in previous chapters, it is possible to estimate the number of PM trips originating or terminating in Springville for the existing and future conditions. The difference between the future PM trips and the existing PM trips (the number of new trips in the City) becomes the denominator in the equation used to calculate the impact fee cost per PM peak hour trip for new development. The City of Springville currently generates approximately **11,396** one-way PM peak hour trips. In 2040, this number is expected to increase to **20,394**, an increase of **79%**. The projected 2025 PM peak hour trip number for the City of Springville is **14,927**, a **31%** increase on today's value.

Table 4 includes the calculations to determine the reduction in the impact fee for existing roadways due to existing deficiencies. The reduction is based on the percentage of the added capacity already filled by the existing traffic volume. This proportion of the existing over capacity volume of the added capacity cannot be funded using Impact Fees.

Table 4: Impact Fee Reduction due to Existing Deficiencies

Project	Location	Added Capacity	Volume Over Existing Capacity	Impact Fee Reduction%
10	400 South Widening: Main Street to 400 East	19,000	4,100	22%

Included in **Table 5** is the percent Pass-Through traffic for all project roadways. A vehicle trip is considered pass-through when the origin and the destination for a specific trip occurs outside the city limits. For all growth within Springville, there is a certain percentage of new trips which are considered pass-through. This percentage is determined using the MAG Travel Demand Model. The Travel Demand Model determines pass-through traffic by keeping track of the origin, destination and path for each vehicle trip generated. When the vehicle trip uses a roadway in Springville and the origin and destination of that trip is located outside of Springville, that trip is considered a pass-through trip. Since a pass-through trip does not originate for terminate within the city, it cannot be paid for with impact fees. The proportion of pass-through traffic not attributable to impact fees is the proportion of pass-through traffic to the added capacity of the roadway.

Table 5: Pass-Through Traffic Calculation

Project	Location	Added Capacity	Pass-Through Volume	Impact Fee Reduction%
7	1200 West: 1400 North to Southern Border	30,500	1,296	5%
10	400 South Widening: Main Street to 400 East	19,000	55	1%
15	900 South Extension to SR-51	11,500	138	2%
16	Connection of Mattea Lane & 750 West	11,500	135	2%

Included in **Table 6** is the calculated excess capacity remaining in 2025. The excess capacity is the proportion of the added capacity that is not used in 2025. Since this capacity is not used by 2025, it cannot be paid using impact fees.

Table 6 Excess Capacity Calculations

Project	Location	Existing Capacity	2025 Capacity	2025 Volume	Excess Capacity	Excess Capacity %
7	1200 West: 1400 North to Southern Border	NA	30,500	14,400	16,100	53%
10	400 South Widening: Main Street to 400 East	11,500	30,500	16,700	13,800	46%
15	900 South Extension to SR-51	NA	11,500	4,600	6,900	60%
16	Connection of Mattea Lane & 750 West	NA	11,500	4,500	7,000	61%

Impact fees can only be collected for the proportion of the added capacity which is used by new development. This can be found by reducing the Springville total cost by each of the reduction percentages found in **Table 4 – Table 6**. **Table 7** is a summary table for existing deficiencies, pass-through as well as excess capacity used to calculate the impact fee eligible proportion that will be attributed to each project. According to the Impact Fee law, impact fees cannot be collected on improvements where level of service is improved. For existing roadways where LOS is improved, the impact fee eligible percentage is reduced to 0 percent.

Table 7: Proportion of Projects Attributed to New Development

Project	Location	Reduction for Existing Deficiencies	Reduction for Pass-Through	Reduction for Excess Capacity	Impact Fee Eligible Proportion
7	1200 West: 1400 North to Southern Border	0%	5%	53%	42%
10	400 South Widening: Main Street to 400 East	22%	1%	46%	31%
15	900 South Extension to SR-51	0%	2%	60%	38%
16	Connection of Mattea Lane & 750 West	0%	2%	61%	37%

Using the Impact Fee eligible proportions from **Table 7**, the impact fee eligible cost for each project is included in **Table 8**. The City can collect Impact Fee's for the actual project costs incurred up to the impact fee eligible portion of the total roadway cost based on functional classification. For MAG funded projects, the impact fees collected in order to meet the 6.77 percent required by MAG is lower than the impact fee eligible costs for each functional classification and is therefore 100 percent impact fee eligible. Also included in **Table 8** is the impact fee eligible cost for traffic signals. Traffic signals are implemented based on the traffic signal warrants found in Chapter 4C of the Utah Manual on Uniform Traffic Control Devices (MUTCD). Included in the MUTCD are warrants based of traffic volumes, pedestrian volumes, safety, as

well as the roadway network in proximity to the intersection. A traffic signal is not installed without meeting one of the signal warrants included in the Utah MUTCD. Therefore, a reduction in the impact fee due to excess capacity is not included.

Table 8: Impact Fee Facilities Plan 2015-2025 - Summary

Project	Location	Total Price	Springville City Total	Impact Fee Eligible Portion	Impact Fees Eligible Cost
1	400 South Widening: I-15 to Spanish Fork Main Street	\$3,095,000	\$0	0%	\$0
3	1400 North Widening: I-15 to Main Street	\$29,783,000	\$0	0%	\$0
4	SR-51 Widening: Main Street to Southern Border	\$16,861,000	\$0	0%	\$0
7	1200 West: 1400 North to Southern Border	\$40,035,000	\$2,711,000	100%	\$2,711,000
10	400 South Widening: Main Street to 400 East	\$2,768,000	\$188,000	100%	\$188,000
15	900 South Extension to SR-51	\$5,188,000	\$855,000	38%	\$325,000
16	Connection of Mattea Lane & 750 West	\$2,097,000	\$346,000	37%	\$128,000
21	Intersection Improvement: 400 South & 2060 West	\$254,000	\$0	0%	\$0
22	Intersection Improvement: 400 South & 1200 West	\$254,000	\$0	0%	\$0
23	Intersection Improvement: 400 South & Wood Springs Dr.	\$254,000	\$0	0%	\$0
24	Intersection Improvement: 400 South & Main Street	\$254,000	\$0	0%	\$0
27	Intersection Improvement: 1400 North & 1200 West	\$254,000	\$0	0%	\$0
39	Intersection Improvement: West of 400 South Interchange	\$254,000	\$0	0%	\$0
59	Roundabout: Canyon Road and 620 South	\$705,000	\$705,000	100%	\$705,000
62	Traffic Signal: Main Street & 900 North	\$254,000	\$0	100%	\$0
63	Roundabout: 900 South and 800 East	\$705,000	\$705,000	100%	\$705,000
	Total	\$103,015,000	\$5,510,000		\$4,762,000

Proposed Means to Meet Demands of New Development (11-36a-302.2)

All possible revenue sources have been considered as a means of financing transportation capital improvements needed as a result of new growth. This section discusses the potential revenue sources that could be used to fund transportation needs as a result of new development.

Transportation routes often span multiple jurisdictions and provide regional significance to the transportation network. As a result, other government jurisdictions or agencies often help pay for such regional benefits. Those jurisdictions and agencies could include the Federal Government, the State or (UDOT), the county, and the local metropolitan planning organization (MAG). The City will need to continue to partner and work with these other jurisdictions to ensure adequate funds are available for the specific improvements necessary to maintain an acceptable LOS. The City will also need to partner with adjacent communities to ensure corridor continuity across jurisdictional boundaries (i.e., arterials connect with arterials; collectors connect with collectors, etc.).

Funding sources for transportation are essential if the City of Springville recommended improvements are to be built. The following paragraphs further describe the various transportation funding sources available to the City.

Federal Funding

Federal monies are available to cities and counties through the federal-aid program. UDOT administers the funds. In order to be eligible, a project must be listed on the five-year Statewide Transportation Improvement Program (STIP).

The Surface Transportation Program (STP) funds projects for any roadway with a functional classification of a collector street or higher as established on the Statewide Functional Classification Map. STP funds can be used for both rehabilitation and new construction. The Joint Highway Committee programs a portion of the STP funds for projects around the state in urban areas. Another portion of the STP funds can be used for projects in any area of the state at the discretion of the State Transportation Commission. Transportation Enhancement funds are allocated based on a competitive application process. The Transportation Enhancement Committee reviews the applications and then a portion of the application is passed to the State Transportation Commission. Transportation enhancements include twelve categories ranging from historic preservation, bicycle and pedestrian facilities, and water runoff mitigation.

MAG accepts applications for federal funds from local and regional government jurisdictions. The MAG Technical Advisory and Regional Planning committees select projects for funding every two years. The selected projects form the Transportation Improvement Program (TIP). In order to receive funding, projects should include one or more of the following aspects:

- **Congestion Relief** – spot improvement projects intended to improve Levels of Service and/or reduce average delay along those corridors identified in the Regional Transportation Plan as high congestion areas
- **Mode Choice** – projects improving the diversity and/or usefulness of travel modes other than single occupant vehicles

- **Air Quality Improvements** – projects showing demonstrable air quality benefits
- **Safety** – improvements to vehicular, pedestrian, and bicyclist safety

State/County Funding

The distribution of State Class B and C Program monies is established by State Legislation and is administered by the State Department of Transportation. Revenues for the program are derived from State fuel taxes, registration fees, driver license fees, inspection fees, and transportation permits. 75% of these funds are kept by UDOT for their construction and maintenance programs. The rest is made available to counties and cities. As many of the roads in Springville fall under UDOT jurisdiction, it is in the interests of the City that staff are aware of the procedures used by UDOT to allocate those funds and to be active in requesting the funds be made available for UDOT owned roadways in the City.

Class B and C funds are allocated to each city and county by a formula based on population, centerline miles, and land area. Class B funds are given to counties, and Class C funds are given to cities and towns. Class B and C funds can be used for maintenance and construction projects; however, thirty percent of those funds must be used for construction or maintenance projects that exceed \$40,000. The remainder of these funds can be used for matching federal funds or to pay the principal, interest, premiums, and reserves for issued bonds.

In 2005 the State Senate passed a bill providing for the advance acquisition of right-of-way for highways of regional significance. This bill would enable cities and counties to better plan for future transportation needs by acquiring property to be used as future right-of-way before it is fully developed and becomes extremely difficult to acquire. UDOT holds on account the revenue generated by the local corridor preservation fund, but the county is responsible to program and control monies. In order to qualify for preservation funds, the City must comply with the Corridor Preservation Process, found at the following link www.udot.utah.gov/public/ucon and also provided in the appendix of this report. Currently, Springville City uses Class C funding for their transportation projects.

City Funding

Some cities utilize general fund revenues for their transportation programs. Another option for transportation funding is the creation of special improvement districts. These districts are organized for the purpose of funding a single specific project that benefits an identifiable group of properties. Another source of funding used by cities is revenue bonding for projects intended to benefit the entire community.

Private interests often provide resources for transportation improvements. Developers construct the local streets within subdivisions and often dedicate right-of-ways and participate in the construction of collector/arterial streets adjacent to their developments. Developers can also be considered a possible source of funds for projects through the use of impact fees. These fees are assessed as a result of the impacts a particular development will have on the surrounding roadway system, such as the need for traffic signals or street widening.

General fund revenues are typically reserved for operation and maintenance purposes as they relate to transportation. However, general funds could be used if available to fund the expansion or introduction of specific services. Providing a line item in the City budgeted general funds to address roadway improvements, which are not impact fee eligible, is a recommended practice to fund transportation projects, should other funding options fall short of the needed amount.

General obligation bonds are debt paid for or backed by the City's taxing power. In general, facilities paid for through this revenue stream are in high demand amongst the community. Typically, general obligation bonds are not used to fund facilities that are needed as a result of new growth because existing residents would be paying for the impacts of new growth. As a result, general obligation bonds are not considered a fair means of financing future facilities needed as a result of new growth.

Certain areas might have different needs or require different methods of funding than traditional revenue sources. A Special Assessment Area (SAA) can be created for infrastructure needs that benefit or encompass specific areas of the City. Creation of the SAA may be initiated by the municipality by a resolution declaring public health, convenience, and necessity require the creation of a SAA. The boundaries and services provided by the district must be specified and a public hearing held prior to creation of the SAA. Once the SAA is created, funding can be obtained from tax levies, bonds, and fees when approved by the majority of the qualified electors of the SAA. These funding mechanisms allow the costs to be spread out over time. Through the SAA, tax levies and bonding can apply to specific areas in the City needing to benefit from the improvements.

Interfund Loans

Since infrastructure must generally be built ahead of growth, it must sometimes be funded before expected impact fees are collected. Bonds are the solution to this problem in some cases. In other cases, funds from existing user rate revenue will be loaned to the impact fee fund to complete initial construction of the project. As impact fees are received, they will be reimbursed. Consideration of these loans will be included in the impact fee analysis and should be considered in subsequent accounting of impact fee expenditures.

Developer Dedications and Exactions

Developer dedications and exactions can both be credited against the developer's impact fee analysis. If the value of the developer dedications and/or exactions are less than the developer's impact fee liability, the developer will owe the balance of the liability to the City. If the dedications and/or exactions of the developer are greater than the impact fee liability, the City must reimburse the developer the difference.

Developer Impact Fees

Impact fees are a way for a community to obtain funds to assist in the construction of infrastructure improvements resulting from and needed to serve new growth. The premise behind impact fees is that if no new development occurred, the existing infrastructure would be adequate. Therefore, new developments should pay for the portion of required improvements that result from new growth. Impact fees are assessed for many types of infrastructures and facilities that are provided by a community, such as roadway facilities. According to state law, impact fees can only be used to fund growth related system improvements.

Necessity of Improvements to Maintain Level of Service

According to State statute, impact fees must only be used to fund projects that will serve needs caused by future development. They are not to be used to address present deficiencies. Only projects that address future needs are included in this IFFP. This ensures a fair fee since developers will not be expected to address present deficiencies.

Impact Fee Certification (11-36a-306)

This report has been prepared in accordance with Utah Code Title 11 Chapter 36 titled “Impact Fees Act”. This report relies upon the planning, engineering, land use and other source data provided by the City and their designees and all results and projections are founded upon this information.

In accordance with Utah Code Annotate, 11-36a-306(1), Horrocks Engineers, certifies that this impact fee facilities plan:

1. Includes only the cost of public facilities that are:
 - a. Allowed under the Impact Fees Act; and
 - b. Actually incurred; or
 - c. Are projected to be incurred or encumbered within six years of the day on which each impact fee is paid;
2. Does not include:
 - a. Costs of operation and maintenance of public facilities
 - b. Cost of qualifying public facilities that will raise the level of service for the facilities, through impact fees, above the level of service supported by existing residents;
 - c. An expense for overhead, unless the expense is calculated pursuant to a methodology that is consistent with generally accepted cost accounting practices and the methodological standards set forth by the federal Office of Management and Budget for federal grant reimbursement; and
3. Complies in each and every relevant respect with the Impact Fees Act.

This certification is made with the following limitations:

1. All of the recommendations for implementing this IFFP of IFA are followed in their entirety by the City.
2. If any portion of the IFFP is modified or amended in any way, this certification is no longer valid.
3. All information presented and used in the creation of this IFFP is assumed to be complete and correct, including any information received from the City or other outside sources.



APPENDIX A – COST ESTIMATES

Project Summary (IFFP)

Project	Location	Total Price	Funding Source	Range (Yr)	Springville City %	Springville City Total
1	400 South Widening: I-15 to Spanish Fork Main Street	\$3,095,000	UDOT	2025	0%	\$0
3	1400 North Widening: I-15 to Main Street	\$29,783,000	UDOT	2025	0%	\$0
4	SR-51 Widening: Main Street to Southern Border	\$16,861,000	UDOT	2025	0%	\$0
7	1200 West: 1400 North to Southern Border	\$40,035,000	Springville/MAG	2025	6.77%	\$2,711,000
10	400 South Widening: Main Street to 400 East	\$2,768,000	Springville/MAG	2025	6.77%	\$188,000
15	900 South Extension to SR-51	\$5,188,000	Springville	2025	16%	\$855,000
16	Connection of Mattea Lane & 750 West	\$2,097,000	Springville	2025	16%	\$346,000
21	Intersection Improvement: 400 South & 2060 West	\$254,000	UDOT	2025	0%	\$0
22	Intersection Improvement: 400 South & 1200 West	\$254,000	UDOT	2025	0%	\$0
23	Intersection Improvement: 400 South & Wood Springs Dr.	\$254,000	UDOT	2025	0%	\$0
24	Intersection Improvement: 400 South & Main Street	\$254,000	UDOT	2025	0%	\$0
27	Intersection Improvement: 1400 North & 1200 West	\$254,000	UDOT	2025	0%	\$0
39	Intersection Improvement: West of 400 South Interchange	\$254,000	UDOT	2025	0%	\$0
59	Roundabout: Canyon Road and 620 South	\$705,000	Springville	2025	100%	\$705,000
62	Traffic Signal: Main Street & 900 North	\$254,000	UDOT	2025	0%	\$0
63	Roundabout: 900 South and 800 East	\$705,000	Springville	2025	100%	\$705,000
Total		\$103,015,000				\$5,510,000

Project Summary (10 Years)

Project	Location	Total Price	Funding Source	Springville City %	Funded by Others	Springville City Total	Impact Fee Eligible	Impact Fee Collected
1	400 South Widening: I-15 to Spanish Fork Main Street	\$3,095,000	UDOT	0%	\$3,095,000	\$0	0%	\$0
3	1400 North Widening: I-15 to Main Street	\$29,783,000	UDOT	0%	\$29,783,000	\$0	0%	\$0
4	SR-51 Widening: Main Street to Southern Border	\$16,861,000	UDOT	0%	\$16,861,000	\$0	0%	\$0
7	1200 West: 1400 North to Southern Border	\$40,035,000	Springville/MAG	6.77%	\$37,324,000	\$2,711,000	100%	\$2,711,000
10	400 South Widening: Main Street to 400 East	\$2,768,000	Springville/MAG	6.77%	\$2,580,000	\$188,000	100%	\$188,000
15	900 South Extension to SR-51	\$5,188,000	Springville	16%	\$4,333,000	\$855,000	38%	\$325,000
16	Connection of Mattea Lane & 750 West	\$2,097,000	Springville	16%	\$1,751,000	\$346,000	37%	\$128,000
21	Intersection Improvement: 400 South & 2060 West	\$254,000	UDOT	0%	\$254,000	\$0	0%	\$0
22	Intersection Improvement: 400 South & 1200 West	\$254,000	UDOT	0%	\$254,000	\$0	0%	\$0
23	Intersection Improvement: 400 South & Wood Springs Dr.	\$254,000	UDOT	0%	\$254,000	\$0	0%	\$0
24	Intersection Improvement: 400 South & Main Street	\$254,000	UDOT	0%	\$254,000	\$0	0%	\$0
27	Intersection Improvement: 1400 North & 1200 West	\$254,000	UDOT	0%	\$254,000	\$0	0%	\$0
39	Intersection Improvement: West of 400 South Interchange	\$254,000	UDOT	0%	\$254,000	\$0	0%	\$0
59	Roundabout: Canyon Road and 620 South	\$705,000	Springville	100%	\$0	\$705,000	100%	\$705,000
62	Traffic Signal: Main Street & 900 North	\$254,000	UDOT	0%	\$254,000	\$0	100%	\$0
63	Roundabout: 900 South and 800 East	\$705,000	Springville	100%	\$0	\$705,000	100%	\$705,000
	Total	\$103,015,000			\$97,505,000	\$5,510,000		\$4,762,000

IFFP Reduction Calculations

Existing Deficiencies

Project	Location	Added Capacity	Volume Over Existing Capacity	Impact Fee Reduction%
10	400 South Widening: Main Street to 400 East	19,000	4,100	22%

Pass Through

Project	Location	Added Capacity	Pass-Through Volume	Impact Fee Reduction%
7	1200 West: 1400 North to Southern Border	30,500	1,296	5%
8	1600 South Widening: 300 West to Southwestern Border	19,000	2,470	13%
9	1600 South Extension to US-89	30,500	2,470	8%
10	400 South Widening: Main Street to 400 East	19,000	55	1%
15	900 South Extension to SR-51	11,500	138	2%
16	Connection of Mattea Lane & 750 West	11,500	135	2%

Excess Capacity

Project	Location	Existing Capacity	2025 Capacity	2025 Volume	Excess Capacity	Excess Capacity %
7	1200 West: 1400 North to Southern Border	NA	30,500	14,400	16,100	53%
8	1600 South Widening: 300 West to Southwestern Border	11,500	30,500	4,100	18,000	60%
9	1600 South Extension to US-89	NA	30,500	NA	9,666	32%
10	400 South Widening: Main Street to 400 East	11,500	30,500	16,700	13,800	46%
15	900 South Extension to SR-51	NA	11,500	4,600	6,900	60%
16	Connection of Mattea Lane & 750 West	NA	11,500	4,500	7,000	61%

Summary

Project	Location	Reduction for Existing Deficiencies	Reduction for Pass-Through	Reduction for Excess Capacity	Impact Fee Eligible Proportion
7	1200 West: 1400 North to Southern Border	0%	5%	53%	42%
8	1600 South Widening: 300 West to Southwestern Border	0%	13%	60%	27%
9	1600 South Extension to US-89	0%	8%	32%	60%
10	400 South Widening: Main Street to 400 East	22%	1%	46%	31%
15	900 South Extension to SR-51	0%	2%	60%	38%
16	Connection of Mattea Lane & 750 West	0%	2%	61%	37%

**Springville City
Transportation Improvement Program (TIP)**

Unit Costs

Item	Unit	Unit Cost
Parkstrip	S.F.	\$4.00
Removal of Existing Asphalt	S.Y.	\$4.00
Clearing and Grubbing	Acre	\$2,000.00
Roadway Excavation	C.Y.	\$10.50
HMA Concrete	Ton	\$85.00
Untreated Base Course	C.Y.	\$10.00
Granular Borrow	C.Y.	\$40.00
Curb and Gutter (2' width)	L.F.	\$22.50
Sidewalk (5' width)	L.F.	\$25.00
Drainage	L.F.	\$45.00
Right of Way	S.F.	\$4.00
Removal of Existing Curb and Gutter	L.F.	\$5.00
Grind Existing Asphalt	S.F.	\$5.00
Restriping	L.F.	\$5.00
Roundabout	Each	\$500,000
Traffic Signal	Each	\$180,000

Contingency	15%
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Mobilization	10%
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Preconstruction Engineering	8%
Construction Engineering	8%

**Springville City
Transportation Master Plan**

400 South Widening: I-15 to Spanish Fork Main Street

Major Arterial

Costs

Item	Unit	Unit Cost	Quantity	Cost
Parkstrip	S.F.	\$4.00	38,980	\$155,922
Removal of Existing Asphalt	S.Y.	\$4.00	11,640	\$46,560
Clearing and Grubbing	Acre	\$2,000.00	2	\$4,810
Roadway Excavation	C.Y.	\$10.50	5,233	\$54,952
HMA Concrete	Ton	\$85.00	3,855	\$327,666
Untreated Base Course	C.Y.	\$10.00	1,744	\$17,445
Granular Borrow	C.Y.	\$40.00	3,925	\$157,004
Curb and Gutter (2' width)	L.F.	\$22.50	4,873	\$109,632
Sidewalk (5' width)	L.F.	\$25.00	4,873	\$121,814
Drainage	L.F.	\$45.00	4,873	\$219,265
Right of Way	S.F.	\$4.00	104,760	\$419,039
Removal of Existing Curb and Gutter	L.F.	\$5.00	4,873	\$24,363
Grind Existing Asphalt	S.F.	\$5.00	104,760	\$523,799
Restriping	L.F.	\$5.00	2,436	\$12,181
Roundabout	Each	\$500,000	0	\$0
Traffic Signal	Each	\$180,000	0	\$0
Subtotal				\$2,194,453

Contingency	15%	\$329,168
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Mobilization	10%	\$219,445
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Preconstruction Engineering	8%	\$175,556
Construction Engineering	8%	\$175,556

Total Project Costs	\$3,095,000
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Springville City's Responsibility	0%
	\$0

Overall Assumptions:

HMA Pavement Density (pcf) =	155	Project No.	1
HMA Thickness (in) =	4	Funding:	UDOT
Untreated Base Course Thickness (in) =	8	Type:	Capacity Improvement
Granular Borrow Thickness (in) =	18	Cost from 2040 RTP	
Roadway Excavation Depth (ft) =	2		
Number of Sidewalks (No.) =	2		
Overlay HMA Thickness (in) =	3		

**Springville City
Transportation Master Plan**

1400 North Widening: I-15 to Main Street

Major Arterial

Costs

Item	Unit	Unit Cost	Quantity	Cost
Parkstrip	S.F.	\$4.00	411,213	\$1,644,853
Removal of Existing Asphalt	S.Y.	\$4.00	77,103	\$308,410
Clearing and Grubbing	Acre	\$2,000.00	25	\$50,741
Roadway Excavation	C.Y.	\$10.50	85,669	\$899,529
HMA Concrete	Ton	\$85.00	43,322	\$3,682,367
Untreated Base Course	C.Y.	\$10.00	28,556	\$285,565
Granular Borrow	C.Y.	\$40.00	64,252	\$2,570,083
Curb and Gutter (2' width)	L.F.	\$22.50	25,701	\$578,269
Sidewalk (5' width)	L.F.	\$25.00	25,701	\$642,521
Drainage	L.F.	\$45.00	51,402	\$2,313,075
Right of Way	S.F.	\$4.00	1,105,136	\$4,420,543
Removal of Existing Curb and Gutter	L.F.	\$5.00	25,701	\$128,504
Grind Existing Asphalt	S.F.	\$5.00	693,923	\$3,469,613
Restriping	L.F.	\$5.00	25,701	\$128,504
Roundabout	Each	\$500,000	0	\$0
Traffic Signal	Each	\$180,000	0	\$0
Subtotal				\$21,122,578

Contingency	15%	\$3,168,387
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Mobilization	10%	\$2,112,258
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Preconstruction Engineering	8%	\$1,689,806
Construction Engineering	8%	\$1,689,806

Total Project Costs	\$29,783,000	
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Springville City's Responsibility	0%	
	\$0	

Overall Assumptions:

HMA Pavement Density (pcf) =	155	Project No.	3
HMA Thickness (in) =	4	Funding:	UDOT
Untreated Base Course Thickness (in) =	8	Type:	Capacity Improvement
Granular Borrow Thickness (in) =	18	Cost from 2040 RTP	
Roadway Excavation Depth (ft) =	2		
Number of Sidewalks (No.) =	2		
Overlay HMA Thickness (in) =	3		

**Springville City
Transportation Master Plan**

SR-51 Widening: Main Street to Southern Border

Major Arterial

Costs

Item	Unit	Unit Cost	Quantity	Cost
Parkstrip	S.F.	\$4.00	218,000	\$872,000
Removal of Existing Asphalt	S.Y.	\$4.00	43,903	\$175,611
Clearing and Grubbing	Acre	\$2,000.00	13	\$26,900
Roadway Excavation	C.Y.	\$10.50	43,398	\$455,681
HMA Concrete	Ton	\$85.00	22,791	\$1,937,205
Untreated Base Course	C.Y.	\$10.00	14,466	\$144,660
Granular Borrow	C.Y.	\$40.00	32,549	\$1,301,944
Curb and Gutter (2' width)	L.F.	\$22.50	27,250	\$613,125
Sidewalk (5' width)	L.F.	\$25.00	27,250	\$681,250
Drainage	L.F.	\$45.00	27,250	\$1,226,250
Right of Way	S.F.	\$4.00	585,875	\$2,343,500
Removal of Existing Curb and Gutter	L.F.	\$5.00	27,250	\$136,250
Grind Existing Asphalt	S.F.	\$5.00	395,125	\$1,975,625
Restriping	L.F.	\$5.00	13,625	\$68,125
Roundabout	Each	\$500,000	0	\$0
Traffic Signal	Each	\$180,000	0	\$0
Subtotal				\$11,958,127

Contingency	15%	\$1,793,719
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Mobilization	10%	\$1,195,813
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Preconstruction Engineering	8%	\$956,650
Construction Engineering	8%	\$956,650

Total Project Costs	\$16,861,000	
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Springville City's Responsibility	0%	
	\$0	

Overall Assumptions:

HMA Pavement Density (pcf) =	155	Project No.	4
HMA Thickness (in) =	4	Funding:	UDOT
Untreated Base Course Thickness (in) =	8	Type:	Capacity Improvement
Granular Borrow Thickness (in) =	18		
Roadway Excavation Depth (ft) =	2		
Number of Sidewalks (No.) =	2		
Overlay HMA Thickness (in) =	3		

**Springville City
Transportation Master Plan**

1200 West: 1400 North to Southern Border

Major Arterial with Trail

Costs

Item	Unit	Unit Cost	Quantity	Cost
Parkstrip	S.F.	\$4.00	665,882	\$2,663,529
Removal of Existing Asphalt	S.Y.	\$4.00	0	\$0
Clearing and Grubbing	Acre	\$2,000.00	46	\$91,719
Roadway Excavation	C.Y.	\$10.50	132,560	\$1,391,879
HMA Concrete	Ton	\$85.00	46,230	\$3,929,572
Untreated Base Course	C.Y.	\$10.00	44,187	\$441,866
Granular Borrow	C.Y.	\$40.00	99,420	\$3,976,797
Curb and Gutter (2' width)	L.F.	\$22.50	83,235	\$1,872,794
Sidewalk (5' width)	L.F.	\$25.00	83,235	\$2,080,882
Drainage	L.F.	\$45.00	83,235	\$3,745,587
Right of Way	S.F.	\$4.00	1,997,647	\$7,990,586
Removal of Existing Curb and Gutter	L.F.	\$5.00	0	\$0
Grind Existing Asphalt	S.F.	\$5.00	0	\$0
Restriping	L.F.	\$5.00	41,618	\$208,088
Roundabout	Each	\$500,000	0	\$0
Traffic Signal	Each	\$180,000	0	\$0
Subtotal				\$28,393,299

Contingency	15%	\$4,258,995
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Mobilization	10%	\$2,839,330
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Preconstruction Engineering	8%	\$2,271,464
Construction Engineering	8%	\$2,271,464

Total Project Costs	\$40,035,000	
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Springville City's Responsibility	6.77%
	\$2,711,000

Overall Assumptions:

HMA Pavement Density (pcf) =	155	Project No.	7
HMA Thickness (in) =	4	Funding:	Springville/MAG
Untreated Base Course Thickness (in) =	8	Type:	New Road
Granular Borrow Thickness (in) =	18	Costs apportioned from 2040 RTP	
Roadway Excavation Depth (ft) =	2		
Number of Sidewalks (No.) =	2		
Overlay HMA Thickness (in) =	3		

**Springville City
Transportation Master Plan**

400 South Widening: Main Street to 400 East

Major Arterial

Costs

Item	Unit	Unit Cost	Quantity	Cost
Parkstrip	S.F.	\$4.00	34,928	\$139,712
Removal of Existing Asphalt	S.Y.	\$4.00	10,187	\$40,749
Clearing and Grubbing	Acre	\$2,000.00	2	\$4,310
Roadway Excavation	C.Y.	\$10.50	4,851	\$50,937
HMA Concrete	Ton	\$85.00	3,468	\$294,801
Untreated Base Course	C.Y.	\$10.00	1,617	\$16,170
Granular Borrow	C.Y.	\$40.00	3,638	\$145,533
Curb and Gutter (2' width)	L.F.	\$22.50	4,366	\$98,235
Sidewalk (5' width)	L.F.	\$25.00	4,366	\$109,150
Drainage	L.F.	\$45.00	4,366	\$196,470
Right of Way	S.F.	\$4.00	93,869	\$375,476
Removal of Existing Curb and Gutter	L.F.	\$5.00	4,366	\$21,830
Grind Existing Asphalt	S.F.	\$5.00	91,686	\$458,430
Restriping	L.F.	\$5.00	2,183	\$10,915
Roundabout	Each	\$500,000	0	\$0
Traffic Signal	Each	\$180,000	0	\$0
Subtotal				\$1,962,718

Contingency	15%	\$294,408
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Mobilization	10%	\$196,272
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Preconstruction Engineering	8%	\$157,017
Construction Engineering	8%	\$157,017

Total Project Costs	\$2,768,000
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Springville City's Responsibility	7%
	\$188,000

Overall Assumptions:

HMA Pavement Density (pcf) =	155	Project No.	10
HMA Thickness (in) =	4	Funding:	Springville/MAG
Untreated Base Course Thickness (in) =	8	Type:	Capacity Improvement
Granular Borrow Thickness (in) =	18	Cost from 2040 RTP	
Roadway Excavation Depth (ft) =	2		
Number of Sidewalks (No.) =	2		
Overlay HMA Thickness (in) =	3		

**Springville City
Transportation Master Plan**

900 South Extension to SR-51

Minor Collector

Costs

Item	Unit	Unit Cost	Quantity	Cost
Parkstrip	S.F.	\$4.00	78,400	\$313,600
Removal of Existing Asphalt	S.Y.	\$4.00	0	\$0
Clearing and Grubbing	Acre	\$2,000.00	8.10	\$16,198
Roadway Excavation	C.Y.	\$10.50	15,244	\$160,067
HMA Concrete	Ton	\$85.00	3,987	\$338,927
Untreated Base Course	C.Y.	\$10.00	5,081	\$50,815
Granular Borrow	C.Y.	\$40.00	11,433	\$457,333
Curb and Gutter (2' width)	L.F.	\$22.50	9,800	\$220,500
Sidewalk (5' width)	L.F.	\$25.00	9,800	\$245,000
Drainage	L.F.	\$45.00	9,800	\$441,000
Right of Way	S.F.	\$4.00	352,800	\$1,411,200
Removal of Existing Curb and Gutter	L.F.	\$5.00	0	\$0
Grind Existing Asphalt	S.F.	\$5.00	0	\$0
Restriping	L.F.	\$5.00	4,900	\$24,500
Roundabout	Each	\$500,000	0	\$0
Traffic Signal	Each	\$180,000	0	\$0
Subtotal				\$3,679,140

Contingency	15%	\$551,871
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Mobilization	10%	\$367,914
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Preconstruction Engineering	8%	\$294,331
Construction Engineering	8%	\$294,331

Total Project Costs	\$5,188,000	
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Springville City's Responsibility	16%
	\$855,000

Overall Assumptions:

HMA Pavement Density (pcf) =	155	Project No.	15
HMA Thickness (in) =	3	Funding:	Springville
Untreated Base Course Thickness (in) =	8	Type:	New Road
Granular Borrow Thickness (in) =	18		
Roadway Excavation Depth (ft) =	2		
Number of Sidewalks (No.) =	2		
Overlay HMA Thickness (in) =	3		

**Springville City
Transportation Master Plan**

Connection of Mattea Lane & 750 West

Minor Collector

Costs

Item	Unit	Unit Cost	Quantity	Cost
Parkstrip	S.F.	\$4.00	31,680	\$126,720
Removal of Existing Asphalt	S.Y.	\$4.00	0	\$0
Clearing and Grubbing	Acre	\$2,000.00	3	\$6,545
Roadway Excavation	C.Y.	\$10.50	6,160	\$64,680
HMA Concrete	Ton	\$85.00	1,611	\$136,954
Untreated Base Course	C.Y.	\$10.00	2,053	\$20,533
Granular Borrow	C.Y.	\$40.00	4,620	\$184,800
Curb and Gutter (2' width)	L.F.	\$22.50	3,960	\$89,100
Sidewalk (5' width)	L.F.	\$25.00	3,960	\$99,000
Drainage	L.F.	\$45.00	3,960	\$178,200
Right of Way	S.F.	\$4.00	142,560	\$570,240
Removal of Existing Curb and Gutter	L.F.	\$5.00	0	\$0
Grind Existing Asphalt	S.F.	\$5.00	0	\$0
Restriping	L.F.	\$5.00	1,980	\$9,900
Roundabout	Each	\$500,000	0	\$0
Traffic Signal	Each	\$180,000	0	\$0
Subtotal				\$1,486,673

Contingency	15%	\$223,001
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Mobilization	10%	\$148,667
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Preconstruction Engineering	8%	\$118,934
Construction Engineering	8%	\$118,934

Total Project Costs	\$2,097,000	
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Springville City's Responsibility	16%
	\$346,000

Overall Assumptions:

HMA Pavement Density (pcf) =	155	Project No.	16
HMA Thickness (in) =	3	Funding:	Springville
Untreated Base Course Thickness (in) =	8	Type:	New Road
Granular Borrow Thickness (in) =	18		
Roadway Excavation Depth (ft) =	2		
Number of Sidewalks (No.) =	2		
Overlay HMA Thickness (in) =	3		

**Springville City
Transportation Master Plan**

Intersection Improvement: 400 South & 2060 West

Minor Collector

Costs

Item	Unit	Unit Cost	Quantity	Cost
Parkstrip	S.F.	\$4.00	0	\$0
Removal of Existing Asphalt	S.Y.	\$4.00	0	\$0
Clearing and Grubbing	Acre	\$2,000.00	0	\$0
Roadway Excavation	C.Y.	\$10.50	0	\$0
HMA Concrete	Ton	\$85.00	0	\$0
Untreated Base Course	C.Y.	\$10.00	0	\$0
Granular Borrow	C.Y.	\$40.00	0	\$0
Curb and Gutter (2' width)	L.F.	\$22.50	0	\$0
Sidewalk (5' width)	L.F.	\$25.00	0	\$0
Drainage	L.F.	\$45.00	0	\$0
Right of Way	S.F.	\$4.00	0	\$0
Removal of Existing Curb and Gutter	L.F.	\$5.00	0	\$0
Grind Existing Asphalt	S.F.	\$5.00	0	\$0
Restriping	L.F.	\$5.00	0	\$0
Roundabout	Each	\$500,000	0	\$0
Traffic Signal	Each	\$180,000	1	\$180,000
Subtotal				\$180,000

Contingency	15%	\$27,000
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Mobilization	10%	\$18,000
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Preconstruction Engineering	8%	\$14,400
Construction Engineering	8%	\$14,400

Total Project Costs	\$254,000
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Springville City's Responsibility	0%
	\$0

Overall Assumptions:

HMA Pavement Density (pcf) =	155	Project No.	21
HMA Thickness (in) =	3	Funding:	UDOT
Untreated Base Course Thickness (in) =	8	Type:	Traffic Signal
Granular Borrow Thickness (in) =	18		
Roadway Excavation Depth (ft) =	2		
Number of Sidewalks (No.) =	2		
Overlay HMA Thickness (in) =	3		

**Springville City
Transportation Master Plan**

Intersection Improvement: 400 South & 1200 West

Minor Collector

Costs

Item	Unit	Unit Cost	Quantity	Cost
Parkstrip	S.F.	\$4.00	0	\$0
Removal of Existing Asphalt	S.Y.	\$4.00	0	\$0
Clearing and Grubbing	Acre	\$2,000.00	0	\$0
Roadway Excavation	C.Y.	\$10.50	0	\$0
HMA Concrete	Ton	\$85.00	0	\$0
Untreated Base Course	C.Y.	\$10.00	0	\$0
Granular Borrow	C.Y.	\$40.00	0	\$0
Curb and Gutter (2' width)	L.F.	\$22.50	0	\$0
Sidewalk (5' width)	L.F.	\$25.00	0	\$0
Drainage	L.F.	\$45.00	0	\$0
Right of Way	S.F.	\$4.00	0	\$0
Removal of Existing Curb and Gutter	L.F.	\$5.00	0	\$0
Grind Existing Asphalt	S.F.	\$5.00	0	\$0
Restriping	L.F.	\$5.00	0	\$0
Roundabout	Each	\$500,000	0	\$0
Traffic Signal	Each	\$180,000	1	\$180,000
Subtotal				\$180,000

Contingency	15%	\$27,000
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Mobilization	10%	\$18,000
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Preconstruction Engineering	8%	\$14,400
Construction Engineering	8%	\$14,400

Total Project Costs	\$254,000
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Springville City's Responsibility	0%
	\$0

Overall Assumptions:

HMA Pavement Density (pcf) =	155	Project No.	22
HMA Thickness (in) =	3	Funding:	UDOT
Untreated Base Course Thickness (in) =	8	Type:	Traffic Signal
Granular Borrow Thickness (in) =	18	Springville City Paying 10%	
Roadway Excavation Depth (ft) =	2	Currently two sidewalks	
Number of Sidewalks (No.) =	2		
Overlay HMA Thickness (in) =	3		

**Springville City
Transportation Master Plan**

Intersection Improvement: 400 South & Wood Springs Dr.

Major Arterial

Costs

Item	Unit	Unit Cost	Quantity	Cost
Parkstrip	S.F.	\$4.00	0	\$0
Removal of Existing Asphalt	S.Y.	\$4.00	0	\$0
Clearing and Grubbing	Acre	\$2,000.00	0	\$0
Roadway Excavation	C.Y.	\$10.50	0	\$0
HMA Concrete	Ton	\$85.00	0	\$0
Untreated Base Course	C.Y.	\$10.00	0	\$0
Granular Borrow	C.Y.	\$40.00	0	\$0
Curb and Gutter (2' width)	L.F.	\$22.50	0	\$0
Sidewalk (5' width)	L.F.	\$25.00	0	\$0
Drainage	L.F.	\$45.00	0	\$0
Right of Way	S.F.	\$4.00	0	\$0
Removal of Existing Curb and Gutter	L.F.	\$5.00	0	\$0
Grind Existing Asphalt	S.F.	\$5.00	0	\$0
Restriping	L.F.	\$5.00	0	\$0
Roundabout	Each	\$500,000	0	\$0
Traffic Signal	Each	\$180,000	1	\$180,000
Subtotal				\$180,000

Contingency	15%	\$27,000
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Mobilization	10%	\$18,000
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Preconstruction Engineering	8%	\$14,400
Construction Engineering	8%	\$14,400

Total Project Costs	\$254,000
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Springville City's Responsibility	0%
	\$0

Overall Assumptions:

HMA Pavement Density (pcf) =	155	Project No.	23
HMA Thickness (in) =	4	Funding:	UDOT
Untreated Base Course Thickness (in) =	8	Type:	Traffic Signal
Granular Borrow Thickness (in) =	18	Springville City Paying 10%	
Roadway Excavation Depth (ft) =	2		
Number of Sidewalks (No.) =	2		
Overlay HMA Thickness (in) =	3		

**Springville City
Transportation Master Plan**

Intersection Improvement: 400 South & Main Street

Major Arterial

Costs

Item	Unit	Unit Cost	Quantity	Cost
Parkstrip	S.F.	\$4.00	0	\$0
Removal of Existing Asphalt	S.Y.	\$4.00	0	\$0
Clearing and Grubbing	Acre	\$2,000.00	0	\$0
Roadway Excavation	C.Y.	\$10.50	0	\$0
HMA Concrete	Ton	\$85.00	0	\$0
Untreated Base Course	C.Y.	\$10.00	0	\$0
Granular Borrow	C.Y.	\$40.00	0	\$0
Curb and Gutter (2' width)	L.F.	\$22.50	0	\$0
Sidewalk (5' width)	L.F.	\$25.00	0	\$0
Drainage	L.F.	\$45.00	0	\$0
Right of Way	S.F.	\$4.00	0	\$0
Removal of Existing Curb and Gutter	L.F.	\$5.00	0	\$0
Grind Existing Asphalt	S.F.	\$5.00	0	\$0
Restriping	L.F.	\$5.00	0	\$0
Roundabout	Each	\$500,000	0	\$0
Traffic Signal	Each	\$180,000	1	\$180,000
Subtotal				\$180,000

Contingency	15%	\$27,000
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Mobilization	10%	\$18,000
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Preconstruction Engineering	8%	\$14,400
Construction Engineering	8%	\$14,400

Total Project Costs	\$254,000
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Springville City's Responsibility	0%
	\$0

Overall Assumptions:

HMA Pavement Density (pcf) =	155	Project No.	24
HMA Thickness (in) =	4	Funding:	UDOT
Untreated Base Course Thickness (in) =	8	Type:	Traffic Signal
Granular Borrow Thickness (in) =	18		
Roadway Excavation Depth (ft) =	2		
Number of Sidewalks (No.) =	2		
Overlay HMA Thickness (in) =	3		

**Springville City
Transportation Master Plan**

Intersection Improvement: 1400 North & 1200 West

Major Arterial

Costs

Item	Unit	Unit Cost	Quantity	Cost
Parkstrip	S.F.	\$4.00	0	\$0
Removal of Existing Asphalt	S.Y.	\$4.00	0	\$0
Clearing and Grubbing	Acre	\$2,000.00	0	\$0
Roadway Excavation	C.Y.	\$10.50	0	\$0
HMA Concrete	Ton	\$85.00	0	\$0
Untreated Base Course	C.Y.	\$10.00	0	\$0
Granular Borrow	C.Y.	\$40.00	0	\$0
Curb and Gutter (2' width)	L.F.	\$22.50	0	\$0
Sidewalk (5' width)	L.F.	\$25.00	0	\$0
Drainage	L.F.	\$45.00	0	\$0
Right of Way	S.F.	\$4.00	0	\$0
Removal of Existing Curb and Gutter	L.F.	\$5.00	0	\$0
Grind Existing Asphalt	S.F.	\$5.00	0	\$0
Restriping	L.F.	\$5.00	0	\$0
Roundabout	Each	\$500,000	0	\$0
Traffic Signal	Each	\$180,000	1	\$180,000
Subtotal				\$180,000

Contingency	15%	\$27,000
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Mobilization	10%	\$18,000
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Preconstruction Engineering	8%	\$14,400
Construction Engineering	8%	\$14,400

Total Project Costs	\$254,000
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Springville City's Responsibility	0%
	\$0

Overall Assumptions:

HMA Pavement Density (pcf) =	155	Project No.	27
HMA Thickness (in) =	4	Funding:	UDOT
Untreated Base Course Thickness (in) =	8	Type:	Traffic Signal
Granular Borrow Thickness (in) =	18		
Roadway Excavation Depth (ft) =	2		
Number of Sidewalks (No.) =	2		
Overlay HMA Thickness (in) =	3		

**Springville City
Transportation Master Plan**

Intersection Improvement: West of 400 South Interchange

Principal Arterial

Costs

Item	Unit	Unit Cost	Quantity	Cost
Parkstrip	S.F.	\$4.00	0	\$0
Removal of Existing Asphalt	S.Y.	\$4.00	0	\$0
Clearing and Grubbing	Acre	\$2,000.00	0	\$0
Roadway Excavation	C.Y.	\$10.50	0	\$0
HMA Concrete	Ton	\$85.00	0	\$0
Untreated Base Course	C.Y.	\$10.00	0	\$0
Granular Borrow	C.Y.	\$40.00	0	\$0
Curb and Gutter (2' width)	L.F.	\$22.50	0	\$0
Sidewalk (5' width)	L.F.	\$25.00	0	\$0
Drainage	L.F.	\$45.00	0	\$0
Right of Way	S.F.	\$4.00	0	\$0
Removal of Existing Curb and Gutter	L.F.	\$5.00	0	\$0
Grind Existing Asphalt	S.F.	\$5.00	0	\$0
Restriping	L.F.	\$5.00	0	\$0
Roundabout	Each	\$500,000	0	\$0
Traffic Signal	Each	\$180,000	1	\$180,000
Subtotal				\$180,000

Contingency	15%	\$27,000
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Mobilization	10%	\$18,000
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Preconstruction Engineering	8%	\$14,400
Construction Engineering	8%	\$14,400

Total Project Costs	\$254,000
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Springville City's Responsibility	0%
	\$0

Overall Assumptions:

HMA Pavement Density (pcf) =	155	Project No.	39
HMA Thickness (in) =	4	Funding:	UDOT
Untreated Base Course Thickness (in) =	8	Type:	Traffic Signal
Granular Borrow Thickness (in) =	18		
Roadway Excavation Depth (ft) =	2		
Number of Sidewalks (No.) =	2		
Overlay HMA Thickness (in) =	3		

**Springville City
Transportation Master Plan**

Roundabout: Canyon Road and 620 South

Minor Collector

Costs

Item	Unit	Unit Cost	Quantity	Cost
Parkstrip	S.F.	\$4.00	0	\$0
Removal of Existing Asphalt	S.Y.	\$4.00	0	\$0
Clearing and Grubbing	Acre	\$2,000.00	0	\$0
Roadway Excavation	C.Y.	\$10.50	0	\$0
HMA Concrete	Ton	\$85.00	0	\$0
Untreated Base Course	C.Y.	\$10.00	0	\$0
Granular Borrow	C.Y.	\$40.00	0	\$0
Curb and Gutter (2' width)	L.F.	\$22.50	0	\$0
Sidewalk (5' width)	L.F.	\$25.00	0	\$0
Drainage	L.F.	\$45.00	0	\$0
Right of Way	S.F.	\$4.00	0	\$0
Removal of Existing Curb and Gutter	L.F.	\$5.00	0	\$0
Grind Existing Asphalt	S.F.	\$5.00	0	\$0
Restriping	L.F.	\$5.00	0	\$0
Roundabout	Each	\$500,000	1	\$500,000
Traffic Signal	Each	\$180,000	0	\$0
Subtotal				\$500,000

Contingency	15%	\$75,000
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Mobilization	10%	\$50,000
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Preconstruction Engineering	8%	\$40,000
Construction Engineering	8%	\$40,000

Total Project Costs	\$705,000
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Springville City's Responsibility	100%
	\$705,000

Overall Assumptions:

HMA Pavement Density (pcf) = 155
 HMA Thickness (in) = 3
 Untreated Base Course Thickness (in) = 8
 Granular Borrow Thickness (in) = 18
 Roadway Excavation Depth (ft) = 2
 Number of Sidewalks (No.) = 2
 Overlay HMA Thickness (in) = 3

Project No.
 Funding:
 Type:

59
Springville
Roundabout

**Springville City
Transportation Master Plan**

Traffic Signal: Main Street & 900 North

Minor Collector

Costs

Item	Unit	Unit Cost	Quantity	Cost
Parkstrip	S.F.	\$4.00	0	\$0
Removal of Existing Asphalt	S.Y.	\$4.00	0	\$0
Clearing and Grubbing	Acre	\$2,000.00	0	\$0
Roadway Excavation	C.Y.	\$10.50	0	\$0
HMA Concrete	Ton	\$85.00	0	\$0
Untreated Base Course	C.Y.	\$10.00	0	\$0
Granular Borrow	C.Y.	\$40.00	0	\$0
Curb and Gutter (2' width)	L.F.	\$22.50	0	\$0
Sidewalk (5' width)	L.F.	\$25.00	0	\$0
Drainage	L.F.	\$45.00	0	\$0
Right of Way	S.F.	\$4.00	0	\$0
Removal of Existing Curb and Gutter	L.F.	\$5.00	0	\$0
Grind Existing Asphalt	S.F.	\$5.00	0	\$0
Restriping	L.F.	\$5.00	0	\$0
Roundabout	Each	\$500,000	0	\$0
Traffic Signal	Each	\$180,000	1	\$180,000
Subtotal				\$180,000

Contingency	15%	\$27,000
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Mobilization	10%	\$18,000
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Preconstruction Engineering	8%	\$14,400
Construction Engineering	8%	\$14,400

Total Project Costs	\$254,000
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Springville City's Responsibility	0%
	\$0

Overall Assumptions:

HMA Pavement Density (pcf) =	155	Project No.	62
HMA Thickness (in) =	3	Funding:	UDOT
Untreated Base Course Thickness (in) =	8	Type:	Traffic Signal
Granular Borrow Thickness (in) =	18		
Roadway Excavation Depth (ft) =	2		
Number of Sidewalks (No.) =	2		
Overlay HMA Thickness (in) =	3		

**Springville City
Transportation Master Plan**

Roundabout: 900 South and 800 East

Minor Collector

Costs

Item	Unit	Unit Cost	Quantity	Cost
Parkstrip	S.F.	\$4.00	0	\$0
Removal of Existing Asphalt	S.Y.	\$4.00	0	\$0
Clearing and Grubbing	Acre	\$2,000.00	0	\$0
Roadway Excavation	C.Y.	\$10.50	0	\$0
HMA Concrete	Ton	\$85.00	0	\$0
Untreated Base Course	C.Y.	\$10.00	0	\$0
Granular Borrow	C.Y.	\$40.00	0	\$0
Curb and Gutter (2' width)	L.F.	\$22.50	0	\$0
Sidewalk (5' width)	L.F.	\$25.00	0	\$0
Drainage	L.F.	\$45.00	0	\$0
Right of Way	S.F.	\$4.00	0	\$0
Removal of Existing Curb and Gutter	L.F.	\$5.00	0	\$0
Grind Existing Asphalt	S.F.	\$5.00	0	\$0
Restriping	L.F.	\$5.00	0	\$0
Roundabout	Each	\$500,000	1	\$500,000
Traffic Signal	Each	\$180,000	0	\$0
Subtotal				\$500,000

Contingency	15%	\$75,000
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Mobilization	10%	\$50,000
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Preconstruction Engineering	8%	\$40,000
Construction Engineering	8%	\$40,000

Total Project Costs		\$705,000
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Springville City's Responsibility		100%
		\$705,000

Overall Assumptions:

HMA Pavement Density (pcf) = 155
 HMA Thickness (in) = 3
 Untreated Base Course Thickness (in) = 8
 Granular Borrow Thickness (in) = 18
 Roadway Excavation Depth (ft) = 2
 Number of Sidewalks (No.) = 2
 Overlay HMA Thickness (in) = 3

Project No.
 Funding:
 Type:

**63
Springville
Roundabout**