

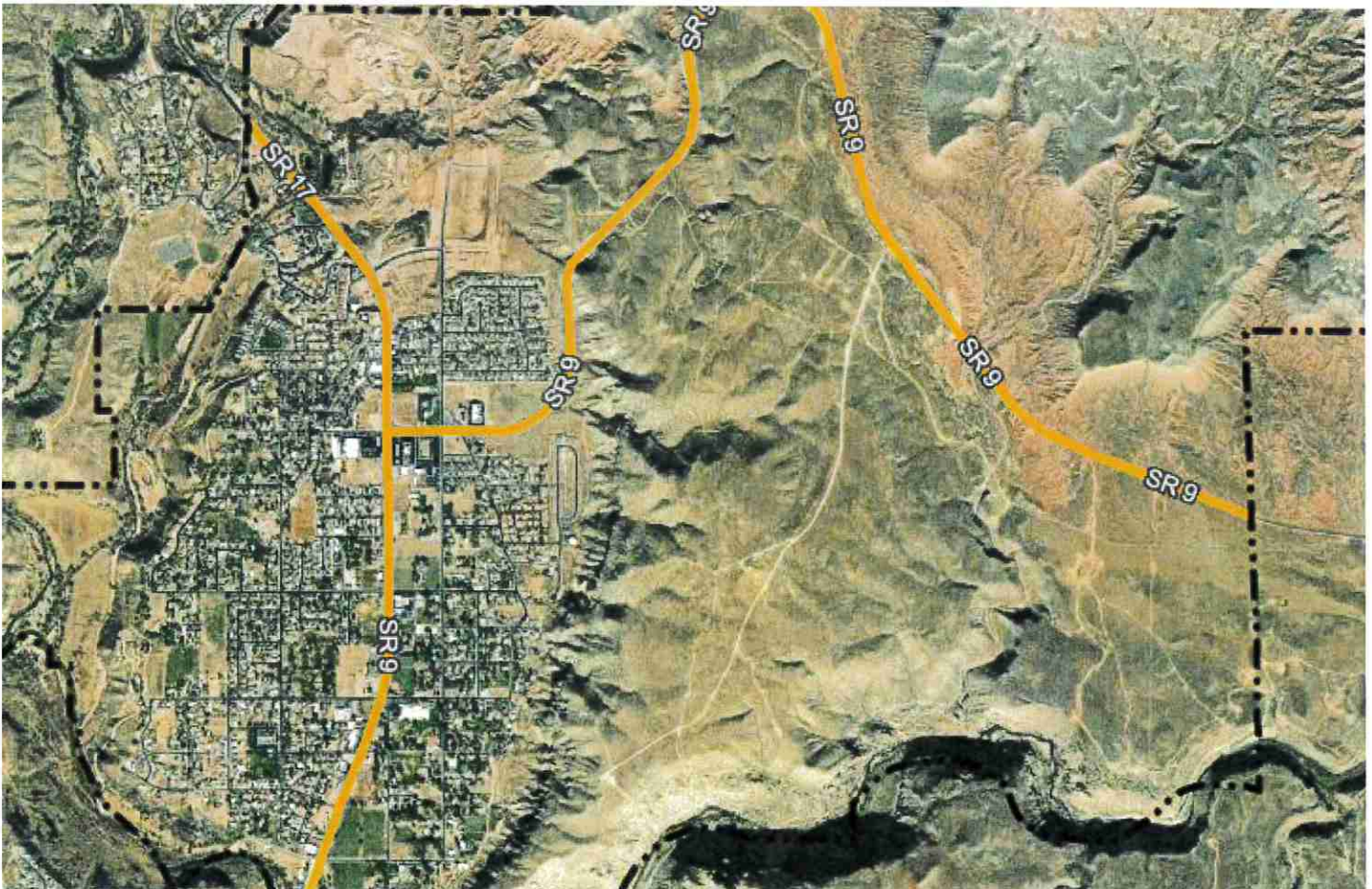
SR-9/SR-17 La Verkin Planning Study

A collaborative effort between UDOT and the City of La Verkin, Utah to identify transportation strategies for the SR-9/SR-17 Corridor.

Project No. S-009(62), PIN No. 19607

January 17, 2023

Introduction



Introduction

A collaborative effort between UDOT and the City of La Verkin, this planning study is intended to identify potential changes that UDOT and the City of La Verkin could implement in an effort to future-proof and improve numerous aspects of the transportation system, including mobility and safety. The vision shared between the agencies seeks to improve the SR-9 and SR-17 corridor within the area and establish principles that will move the community towards a shared vision. Determining future traffic demand and growth, identifying city streets improvements, and finding key intersections and access points are some of the objectives in this project. This corridor is located in one of the most prominent areas in Utah. La Verkin is a gateway to Zion National Park and other recreational areas such as Red Cliffs National Conservation Area, Babylon Arch Trailhead, and many others. Improvement of city infrastructure, including the SR-9 and SR-17 corridor is crucial in connecting individuals and families traveling in, out, and around the region.

Context



Context

La Verkin, Utah is a gateway city to many of the surrounding recreational areas within Utah and provides services to travelers from all over the world. Located in Washington County in Southern Utah, La Verkin's unique geographic location provides the city and its travelers a one of a kind detour from traditional cities. Many parks, trails, and other recreational areas are located within a relatively short drive from the city. Because of its nature and location, there are many opportunities to expand infrastructure to capture as much economic activity as possible. La Verkin had a population of 4,383 in 2020, which allows for many growth opportunities as a relatively small city. Along with capturing more economic activity, UDOT and the city also aims to address the following items:

1. Travel Demand & Congestion
2. Access Management
3. Walkability and Active Transportation
4. Beautification

- 5. Transit
- 6. Economic Needs
- 7. Maintenance

The SR-9/SR-17 Corridor are critical roadways and serve as the primary way for residents and travelers from La Verkin to reach Zion National Park. Zion is one of the busiest parks in the country during peak travel times. In 2021, Zion National Park reached over 5 million visitors, the most travelers the park has ever seen. Travelers taking the SR-9/SR-17 corridor to and from Zion National Park may pass through La Verkin, so capitalizing on increased traveler numbers would be key to secure economic activity. Moreover, trends show a steady increase in travelers to Zion National Park.



Earthstar Geographics | Sources: Esri, TomTom, U.S. Department ... Powered by Esri

La Verkin is located in Washington County, Utah and is a gateway to Zion National Park.



Crashes (2016-2022)

One of the objectives of this study is to identify locations where safety in La Verkin is an issue and to provide guidance and solutions that could mitigate the issues.

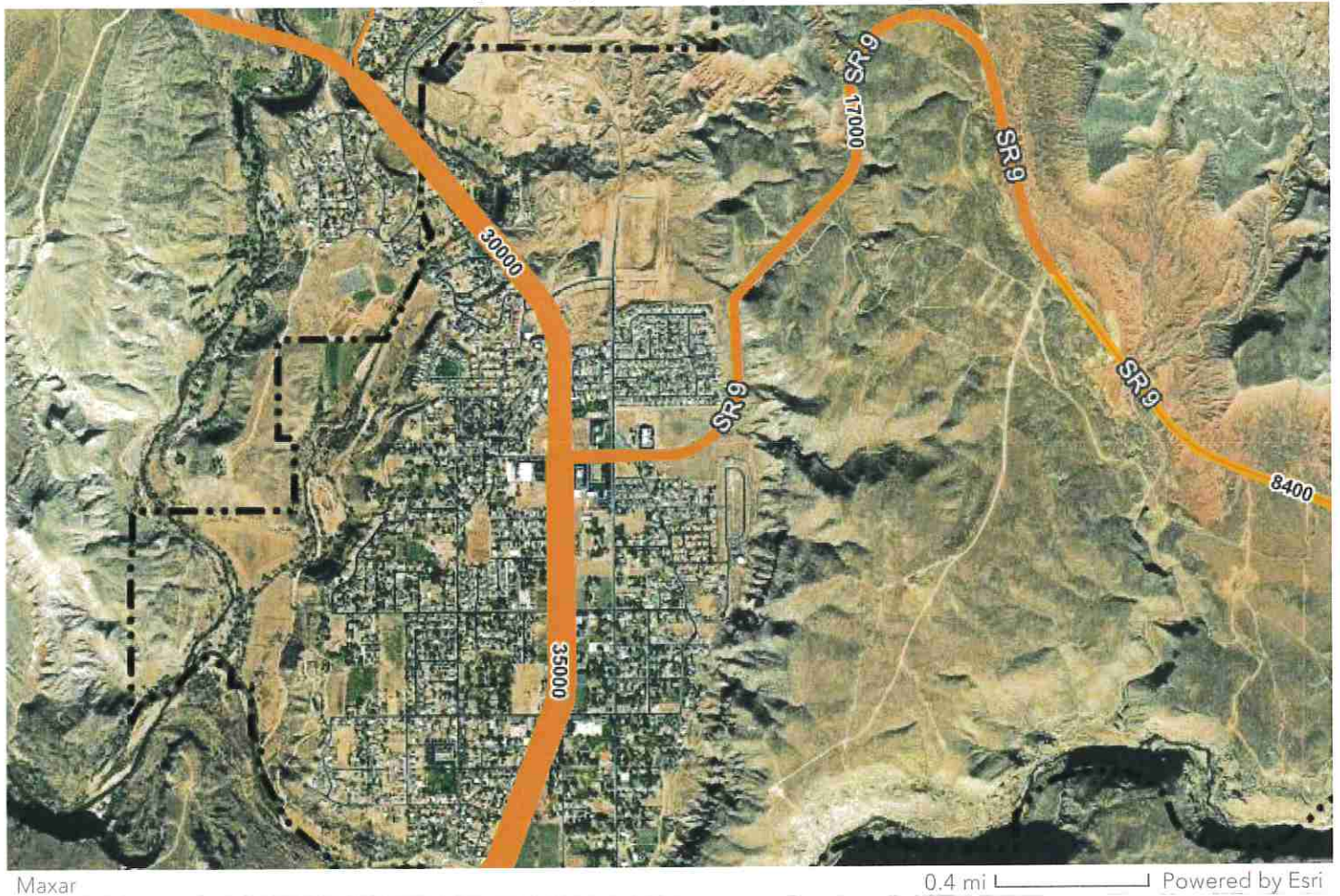
The [adjacent map](#) identifies where crashes have occurred from 2016 to 2022. They are symbolized by the severity of the crash. As identified by the map, one fatal crash occurred along SR-9 east of the city. There also appear to be hot spot locations near the intersection of SR-9 and SR-17, and the intersection of SR-9 and Center Street.



Existing Traffic Volumes

In an effort to understand the flow of traffic through La Verkin, existing traffic volumes (2022) and predicted traffic volumes (2050) were collected and reviewed. As shown on the adjacent map, existing volumes from UDOT continuous count stations indicate the following traffic volumes:

- SR-9 South of SR-9/SR-17 Interchange is approximately 19,000-20,000 vehicles
- SR-17 north to Toquerville is approximately 7,000 vehicles
- SR-9 east to Virgin is approximately 7,500 vehicles



Future Traffic Volumes

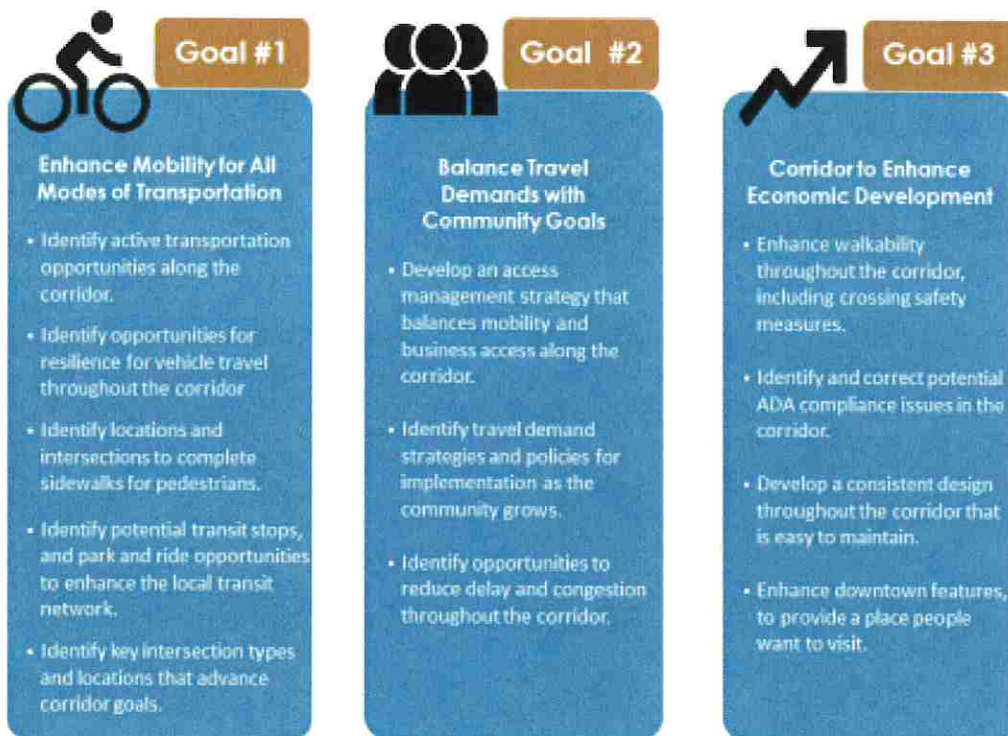
As shown on the adjacent map, La Verkin is expected to see a significant increase in traffic in the coming years. The predicted 2050 traffic volumes show:

- SR-9 south of SR-9/SR-17 intersection is predicted to have 35,000-40,000 vehicles, an increase of 15,000-20,000 vehicles

by 2050

- SR-17 north to Toquerville is predicted to have approximately 30,000 vehicles coming from Toquerville and the Toquerville Bypass, an increase of 23,000 vehicles by 2050
- SR-9 east towards Virgin is expected to have 17,000 vehicles, an increase of approximately 10,000 vehicles by 2050

Vision, Goals and Objectives



Vision

“Improved safety while enhancing mobility and balancing community needs.”

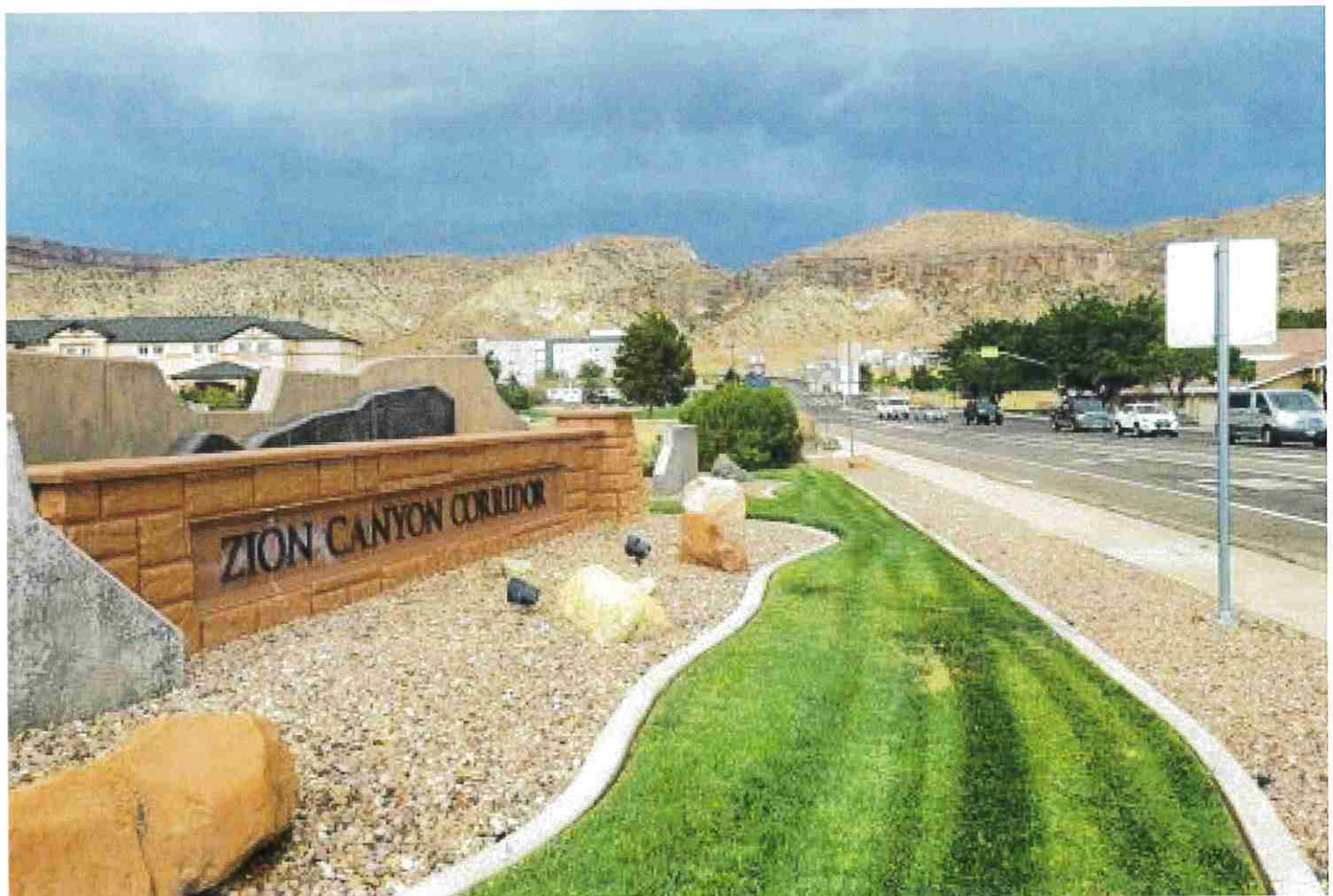
Goals and Objectives

Through discussions with stakeholders three primary study goals with associated objectives were developed. These goals

specifically address issues that were identified as key objectives for the SR-9/SR-17 Corridor and the City of La Verkin. Some of these issues include:

- Active Transportation
 - Walkability
 - Bicycling
- Pedestrian Safety
- Transit Opportunities
- Intersection Improvements
- Access Management
- Community Growth
- ADA Compliance Issues
- Enhanced Downtown
- Economic Development

Needs and Alternatives



Overview of La Verkin Needs and Desires

Based on the Vision, Goals and Objectives and input from Stakeholders a list of Needs and Desires were developed. From that list, several themes emerged. Those themes were:

- Identify and Forecast Travel Demand
- Address Congestion and Access Management
- Address Walkability and Active Transportation
- Identify Beautification and Downtown Enhancements
- Identify Economic Needs
- Identify Transit Needs
- Identify Resilience Needs

The following slides present the detailed needs and desires identified and potential strategies or solutions for meeting those needs and satisfying the identified desires.



Walkability and Active Transportation Needs

- Provide safe connected shared use active transportation opportunities along the corridor.
- Address missing sidewalks and address ADA compliance issues with sidewalks.
- Ensure safe crossing opportunities along SR-9

A Vision for Walkability

As the gateway to Zion National Park, there is incredible demand for hotels and short-term rentals like Airbnb. Tourists want to see not only the stunning geography, but also have good shopping, eating, and cultural experiences.

There is enough undeveloped land that it is still possible to create a walkable mixed-use downtown with similarities to, Moab, Vernal, and others.

However, the present trajectory will create just another auto oriented “Anywhere, USA” unless stakeholders embrace an alternative vision.

The photos to the right illustrate how other cities in the region have created walkable spaces and how La Verkin could take these concepts and create an aesthetically pleasing corridor.



Maxar

0.4 mi Powered by Esri

Active Transportation Strategies

Identify Sidewalk Gaps and ADA Compliance Issues

The [map on this slide](#) identifies existing sidewalks and crosswalks, bike lanes, parks, and trails in relation to the SR-9/SR-17 corridor. In its current configuration, safe crossing locations along SR-9/SR-17 currently exist at Center Street and 500 North. Additional safe crossing zones could be provided at 300 South, 100 South, 200 North, 300 North, 630 North, and 740 North if warranted. Safe crossing zones should be ADA compliant and include clearly marked crossing areas, signage, and prioritization signals.

In addition, another way to provide enhanced mobility for pedestrians is to identify areas that may be disconnected by a lack of sidewalks. Connecting these facilities to provide safe passage for pedestrians will allow residents to reach more destinations by foot.

Provide Safe Active Transportation Corridors to Connect Recreational Amenities off State Routes

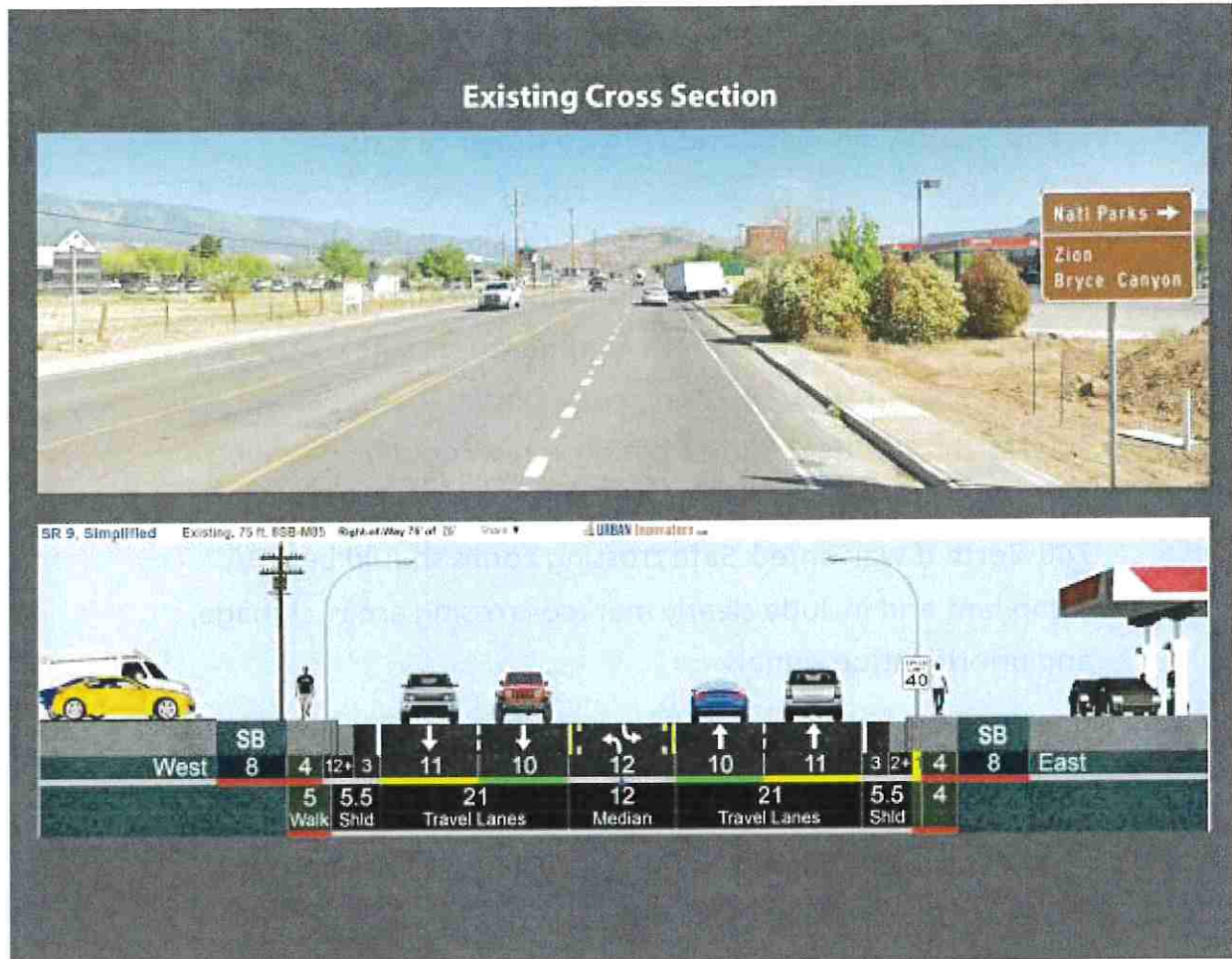
Providing safe active transit corridors on roadways such as Main Street, 300 West, Center Street, 200 North, and 500 North provides safer connections throughout La Verkin for bicyclists and pedestrians.

Safe active transportation corridors entail the utilization of dedicated marked or striped lanes (pink) on higher volume roadways.

Proposed Trails

The La Verkin 2018 General Plan identifies a potential perimeter trail (dashed green) around the outskirts of La Verkin,

with a north/south connection along Main Street which ends near the suggested Mobility Hub location at 500 North and Main Street.



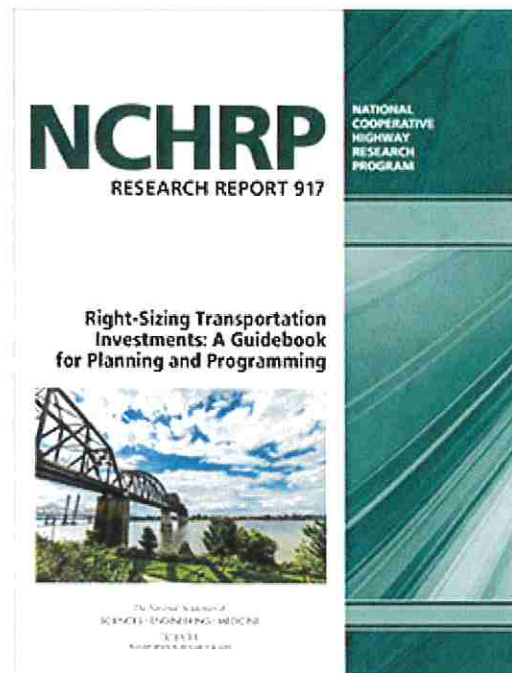
Need for Capacity + Walkability Strategy

Current traffic on SR-9 is about 19,000 vehicles per day. While 5-lane arterials often serve up to 35,000, SR-9 cannot get this high due to high seasonal variation and numerous RVs which affect capacity. Traffic forecasts for 2050 anticipate 30,000 or more – not so much due to visitors to Zion, but to development in the city and toward Zion.

There are strong reasons to maintain 2-lanes each direction, but with just 75-ft right-of-way, there is very little room for anything but pavement. In the existing conditions shown in [the photo and graphic on the right](#), building setbacks are at least 8-feet and usually more.

In the cross section graphic to the right, anything red or yellow is sub-standard when designing for mixed-use environments: Sidewalks are too narrow, 11-ft lanes are a little too wide, 8-ft setbacks are too wide (meaning buildings should be closer to the sidewalk), and a 40-mph speed limit is a little too fast (yellow).

It isn't easy to have high capacity and great walkability at the same time. However, there have been many breakthroughs recently that have potential in La Verkin. NCHRP 917 details many "rightsizing strategies" that help ensure great circulatory capacity, and great walkability at the same time.



NCHRP Research Report 917 - Right Sizing Transportation Investments: A Guidebook for Planning and Programming





Maxar

0.3 mi Powered by Esri

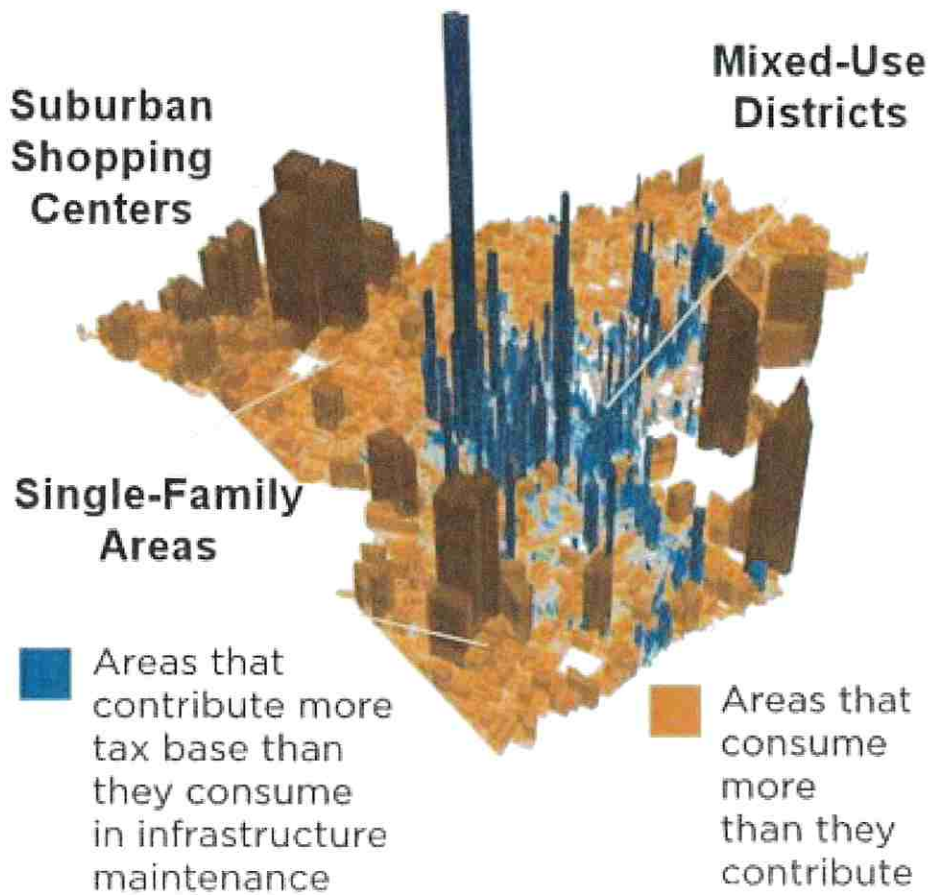
Right-Sizing for Walkable Activity Centers

Economics of Walkable Districts

Low-density means high taxes per capita for maintaining infrastructure. Creating high-value districts can offset the cost of maintaining lower-density areas. [In the graphic below](#), single-family neighborhoods (orange) cost more to maintain than they contribute to the tax base. This includes auto-oriented commercial.

LIFE CYCLE COST VS REVENUE

LAFAYETTE, LOUISIANA



Source: Urban3, Strong Towns

Also featured in APA's Planning Magazine, Aug / Sept 2020

Implement Mixed-Use Areas in La Verkin

Mixed-use, higher-density neighborhoods are the opposite, generating more revenue than it takes to maintain their street trees and other walkable features.

The adjacent map identifies areas in pink where mixed-use neighborhoods could be potentially beneficial to La Verkin.



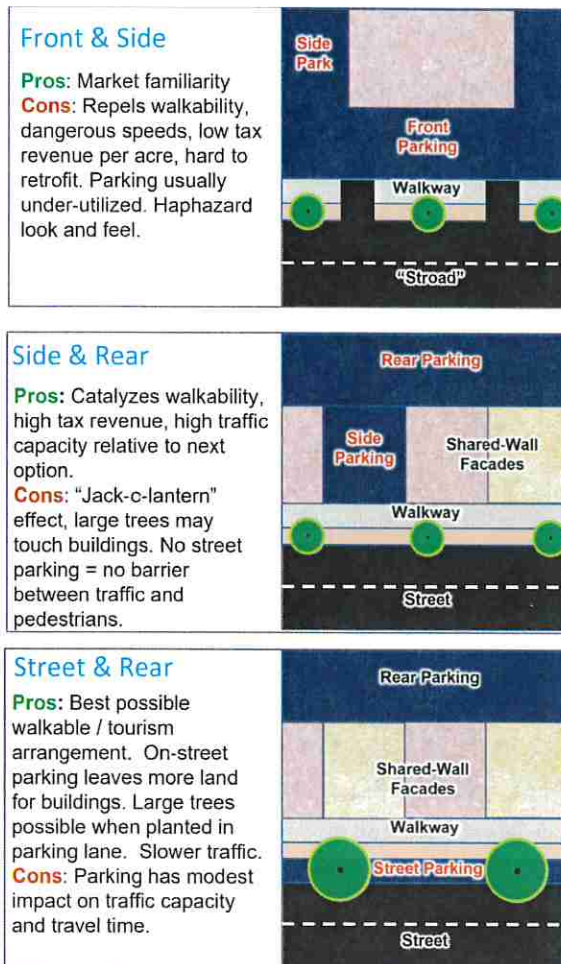
Beautification, Downtown Enhancements and Tourism Needs

- Enhance downtown area to be a destination where people want to stop.
- Provide a clean aesthetic consistent design throughout the corridor.
- Manage planned and future business development through land use and policy changes.
- Increase revenue from tourism Industry, including tourism-driven businesses.
- Be conscious of the desire for simple maintenance of roadways and landscaping.

Beautification and Downtown Enhancement Strategies

The following slides include potential side treatments, parking strategies, and land use policies that could be implemented to

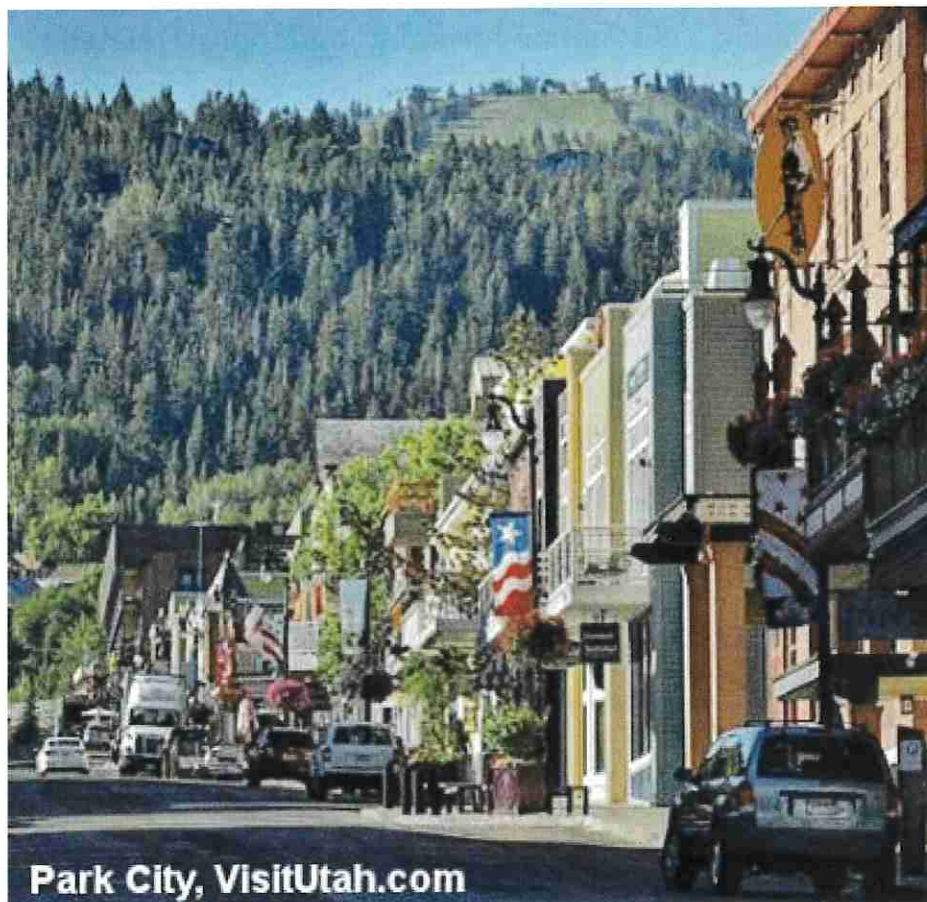
make La Verkin a destination for tourist and tourist- related business activities.



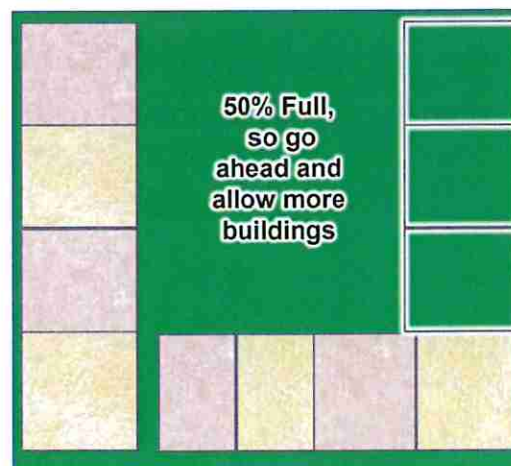
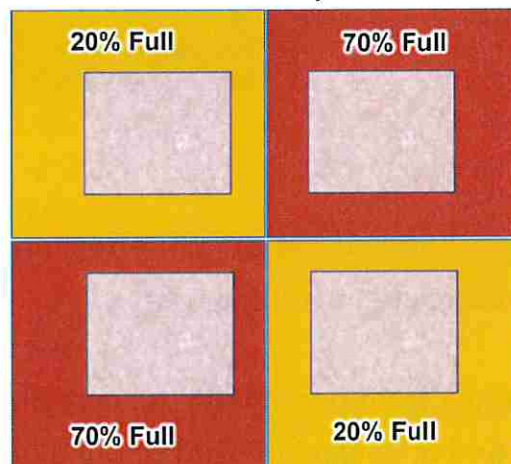
Parking Strategies

The way parking is handled has a major effect on whether an area will be walkable and inviting or not.

Consider adopting a form-based land use code that discourages private parking and driveways in front of buildings. Instead, encourage rear-access parking from side-streets, alleys, or backage roads. Allow side parking if there is no way to have enough in back. Then encourage buildings to be within 3-5 feet of the eventual right-of-way line.



Shared-wall commercial with over-top residential and on-street parking along Main Street in Park City



Remove Parking Requirements and Encourage Public over Private

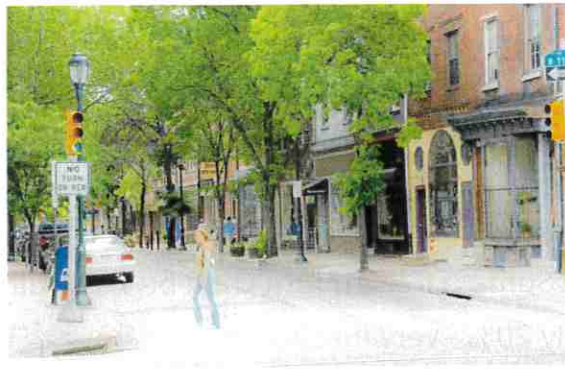
As illustrated in the side panels, when parking must be supplied directly on the parcel being developed, the result is anything but walkable. Some parcels might then be 70% full, while others are only 20% - very inefficient.

Instead, aim for common-lots where stakeholders on the block budget for maintenance – as with a homeowner's association. Then if the common lot is under-utilized, convert part of it to buildings. If it is over-utilized, the success may justify a garage.

Best practice in downtowns is to eliminate minimum parking requirements. Trust the market – business knows it must have parking. Create great on-street parking to minimize how much land goes to off-street parking.



Parcel-by-parcel parking, especially in front of buildings, makes it nearly impossible to retrofit into a truly walkable street. Public lots behind or to the side of buildings, and form-based codes guiding buildings to abut the sidewalk, foster walkability.



Street Trees – Essential for Walkable, Tourist-Oriented Activity Centers

Street Trees may well be the single most cost-effective thing you can do to catalyze walkable development. This is especially true in La Verkin, where punishing sun will hinder tourism, but large-canopy trees will encourage exploration.

Structured Soil

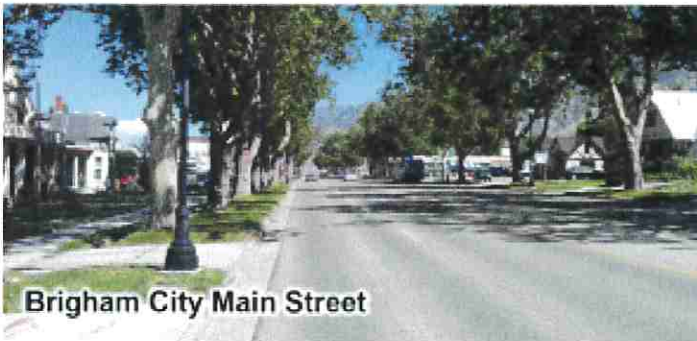
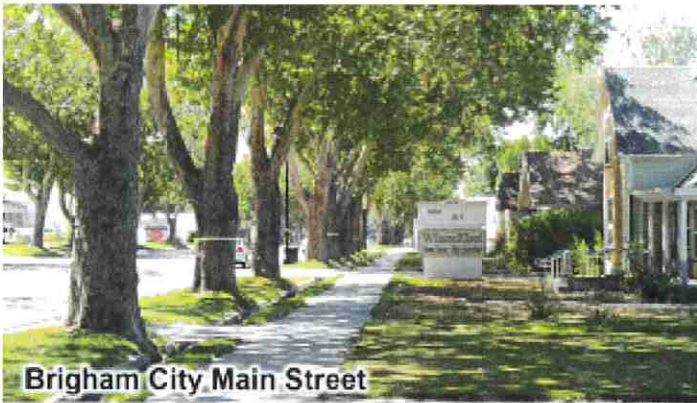
Street trees do best with loose organic soil, but pavements around trees need rock-solid foundations. Concrete root boxes or plastic structures, [as shown here](#), create space inside the box for roots, while the box itself keeps sidewalks and pavers above it from shifting.

Storm water storage in the boxes help ensure water during drought conditions.

Tree "Zippers"

Trees are usually placed in the “park strip.” But if there is on-street parking or an under-utilized shoulder, planting them there creates a “zipper effect”:

- Better shading of the roadway
- Tighter = safer speeds
- Further from wires and buildings.



Street Trees – Essential for Walkable, Tourist-Oriented Activity Centers

Examples of Great Streets, Made Possible by Great Trees

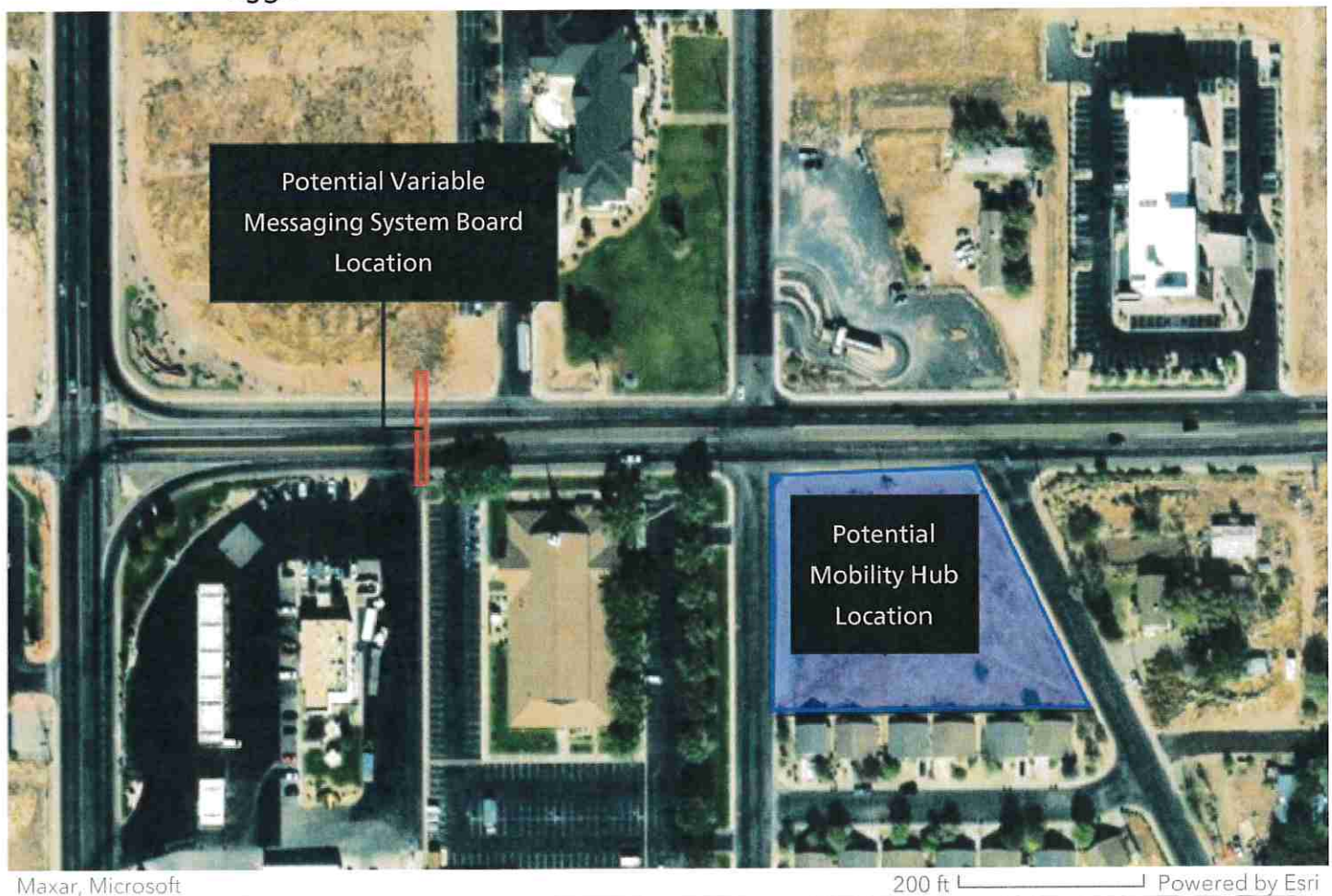
Uniform trees, where both sides of a block are the same species and planted at the same time, was common decades ago. Today, streetscape is “developer-by-developer,” – a recipe for randomness that hinders the walkability that tourists and residents alike are seeking.

For La Verkin to achieve its goals, there is a need for a strategy to implement relatively tall, wide-canopy street trees.

Funding and Maintenance of Street Trees

Along most arterials, it is hard to adequately fund trees in a way that ensures they will thrive and create a lot of shade. But as a town where the whole world will gain either a positive or negative impression of Utah, La Verkin may have success in securing funds directly from the state legislature, perhaps with assistance from the Utah Economic Development Corporation.

Moving quickly to designate mixed-use districts where higher densities (perhaps 2-4-stories) are encouraged and adopting a form-based code to guide emerging development, will help ensure long-term funds to “feed the goose that is laying golden eggs.”



Travel Demand Strategies

- Address congestion into and out of La Verkin.
- Address congestion near the La Verkin Shooting Range and the new Master Planned Community on SR 9.

Travel Demand Opportunities

Zion National Park Shuttle and Parking

Currently, Zion National Park does not require reservations to visit the park, however, permits are required to visit some of the attractions, like Angel's Landing. Shuttles operate daily from March -November, and weekends in February and March. Zion National Park often experiences crowding and lack of parking, causing the park to close traffic once parking is full. A shuttle operates from nearby Springdale, where a parking fee is required.

Transit/Rideshare Opportunities

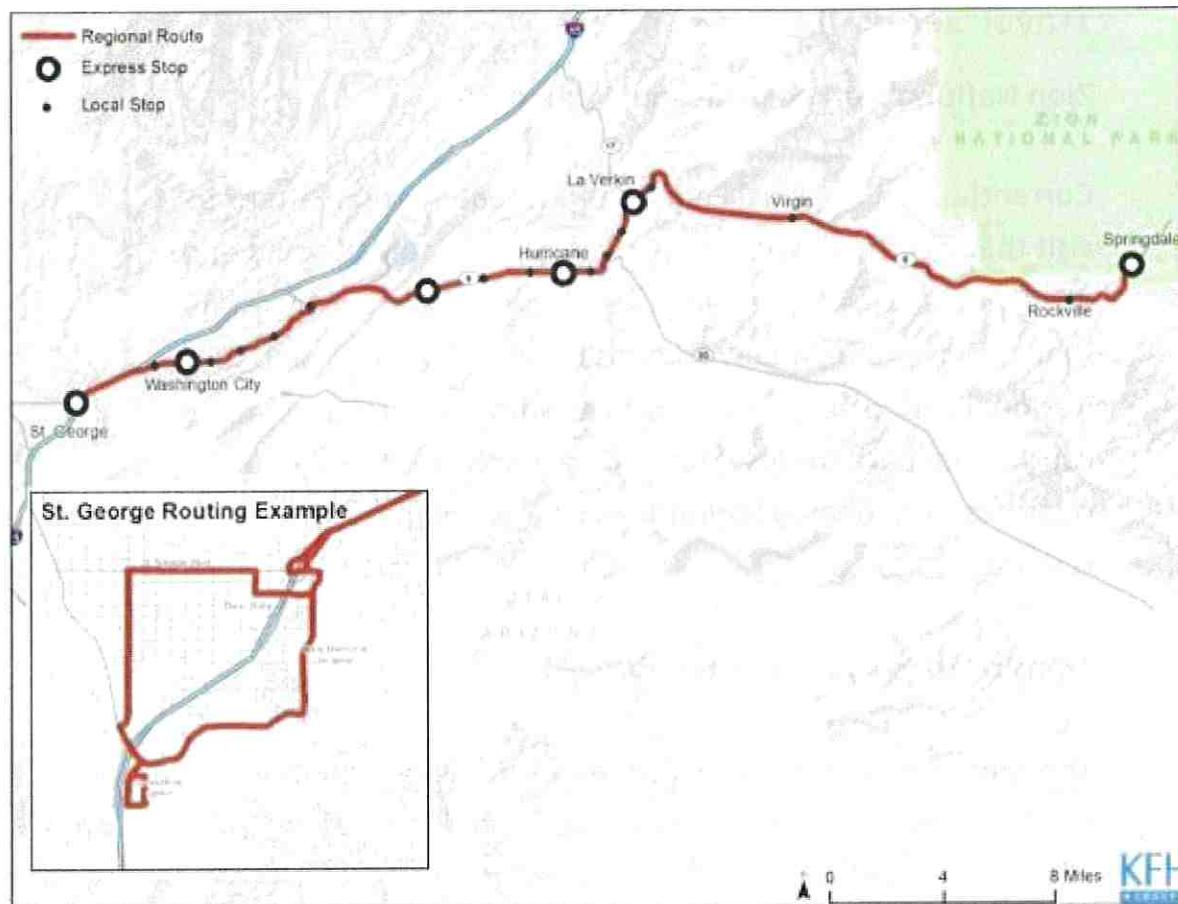
The expansion of transit services and a mobility hub ([potential location illustrated on the right](#)) into La Verkin would help alleviate congestion by minimizing traffic on SR-9 and SR-17. The proposed SunTran bus line would provide an alternative way to get to Zion National Park for tourists and St. George for the workforce. A mobility hub would also provide an opportunity for the workforce traveling outside of La Verkin to rideshare.

Variable Messaging Boards

Another option is to provide Variable Messaging Boards ([potential location illustrated on the right](#)). These boards can:

- Help reduce congestion
- Allows quick communication with drivers
- Can provide trip ETA's or communicate that parking is full

Figure 5-1: Basic Route with Conceptual Stops for Local and Express Service



Transit Needs

- Provide safe transit opportunities along the corridor.
- Identify locations for a potential Park and Ride for tourism and workforce.

Transit Opportunities

SUNTRAN Expansion into La Verkin

St. George's Public Transit System is anticipating the implementation of a regional transit service from St. George to Springdale in 2023 with a proposed stop in La Verkin. This will provide transit opportunities to the citizens of La Verkin. The proposed transit route will follow SR 9 through La Verkin.

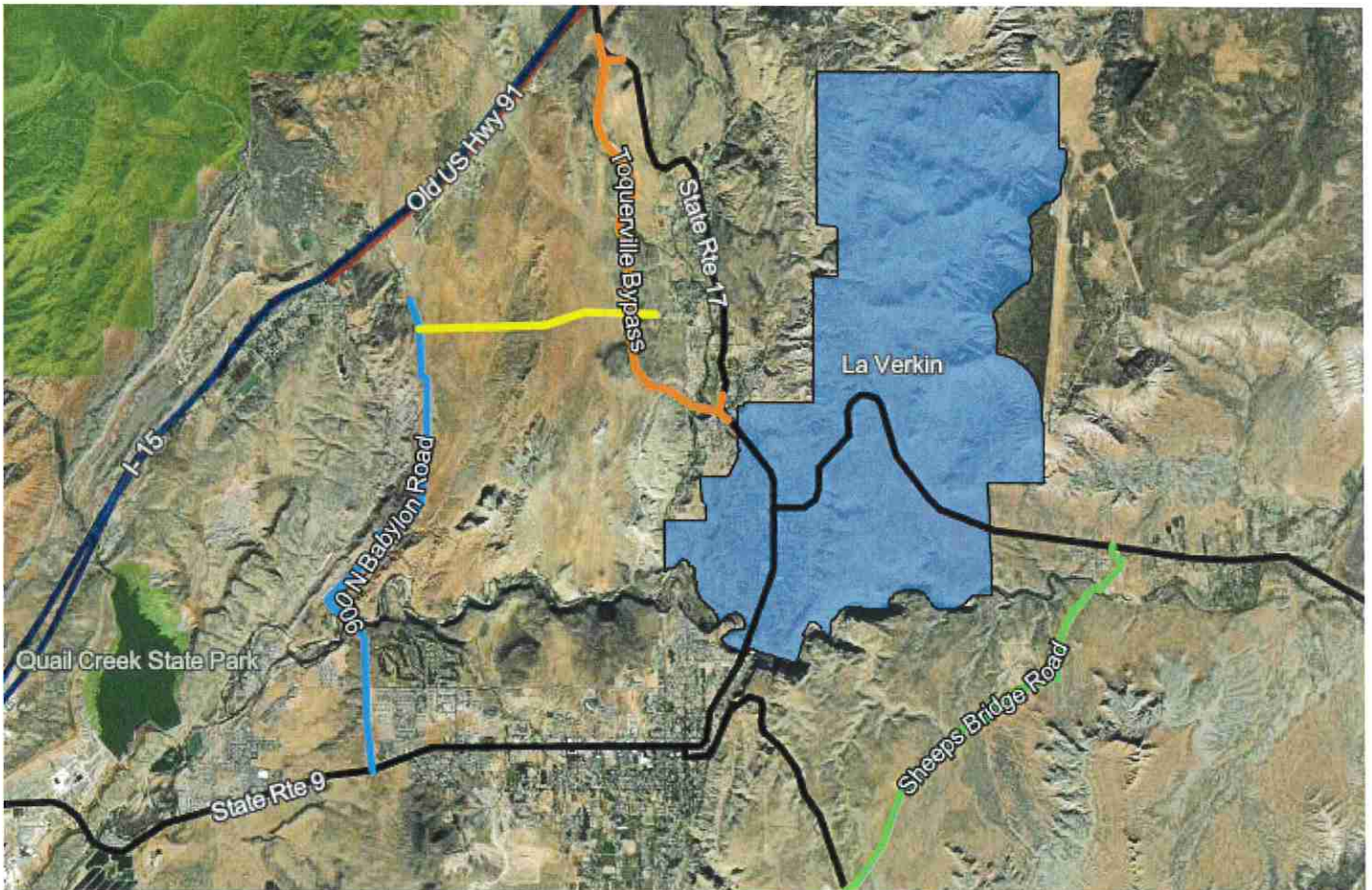
Bus Stops in La Verkin

In 2010, the [Hurricane to Zion Canyon Transit Study](#) identified potential transit stops in the vicinity of:

- SR-9/Center Street
- SR-9/500 North

Identify a Dedicated Mobility Hub

As noted above, a mobility hub located in La Verkin would provide opportunities for not only transit but also active transportation, rideshare, and recreational activities related to Zion's National Park.



Earthstar Geographics | Sources: Esri, TomTom, U.S. Department of Com...

2 mi | Powered by Esri

Resilience Needs

- Provide additional connectors into and out of La Verkin.
- Provide first responders with additional routes to provide safety services.

Resilience Strategies

Toquerville Parkway

Toquerville Parkway is a proposed 4.-mile new corridor located west of Toquerville that would bypass SR-17 around Toquerville and reconnect just north of La Verkin. This new facility would provide additional access from I-15 to La Verkin. It's anticipated to be constructed in 2023.

Sheeps Bridge Road

Sheeps Bridge Road from SR-59 to SR-9 just east of La Verkin would provide an additional connection from the south to SR-9 if a disruption were to occur in La Verkin if it were upgraded from a dirt road.

900 North Babylon Road

900 North (near Babylon Trail) from Hurricane to Leeds also being considered by UDOT is another nearby potential connection across the Virgin River to traverse north and south should a disruption occur in northern La Verkin. This roadway would need to be upgraded from a dirt road and a bridge built over the Virgin River.

Toquerville-Leeds Connector

Another resilience connection being considered by the Dixie MPO is the Toquerville-Leeds Connector. It runs east from the 900 N Babylon Road project just east of Leeds to Toquerville connecting to Sunset Avenue.



Congestion and Access Management

- Provide an access management strategy that provides safe turning movements into businesses along SR-9.
- Utilize shared driveways when opportunities are available.
- Balance community needs and mobility needs.

Congestion and Access Management Solutions

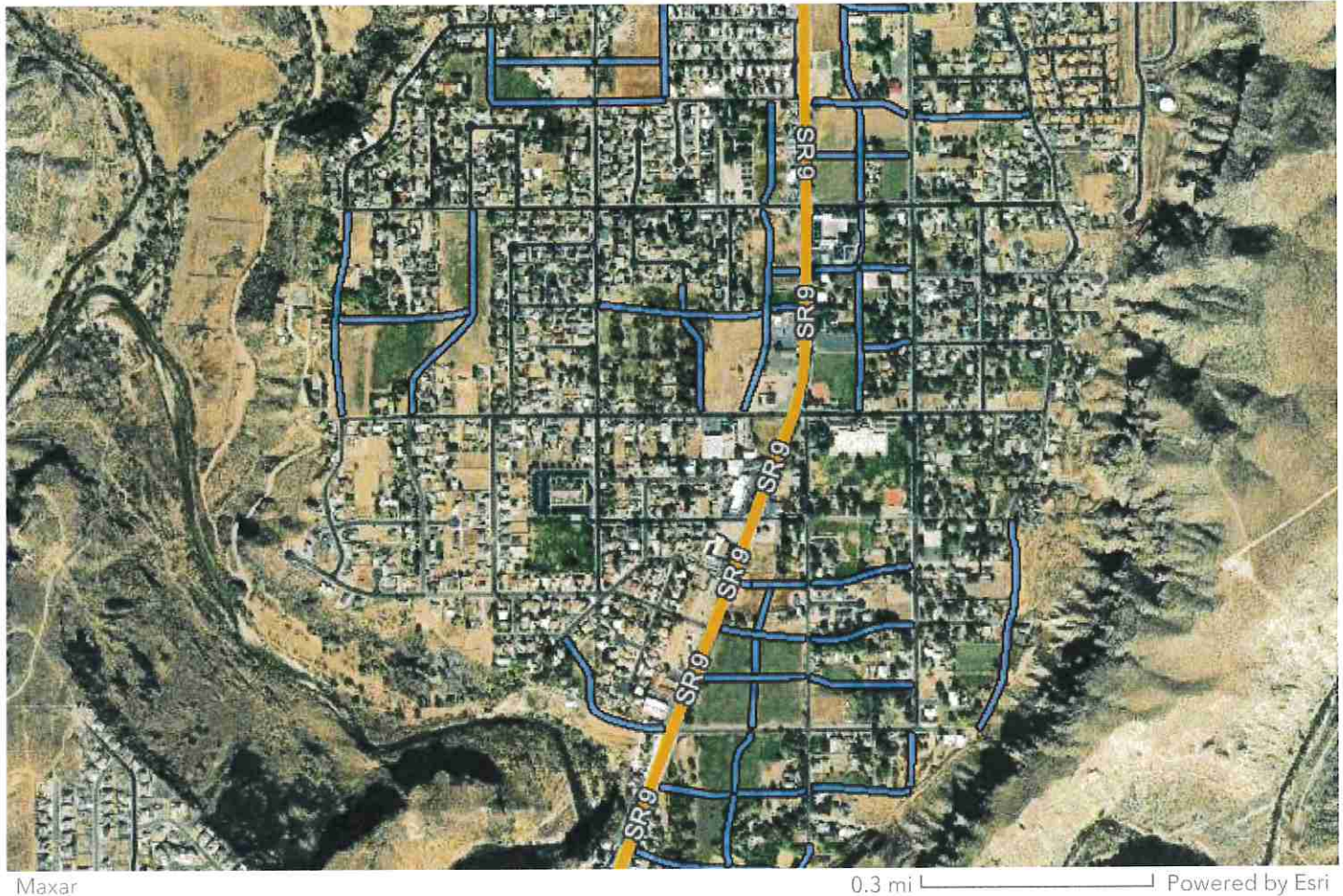
The following slides will discuss potential ways to mitigate congestion and safety issues, and introduce some potential alternatives for the SR-9/SR-17 Corridor.

A range of options were evaluated as part of the study. The options which were aimed to reduce congestion and provide better mobility through La Verkin on the SR-9/SR-17 corridor included the following:

- **Baseline or No Build Option**
- **Standard Signal Upgrades**

- Roundabouts
- Loops
- One-Way Couplet from 200 North to 600 North

More details and the results of the evaluation of these options can be found below in the "Putting it All Together Section"

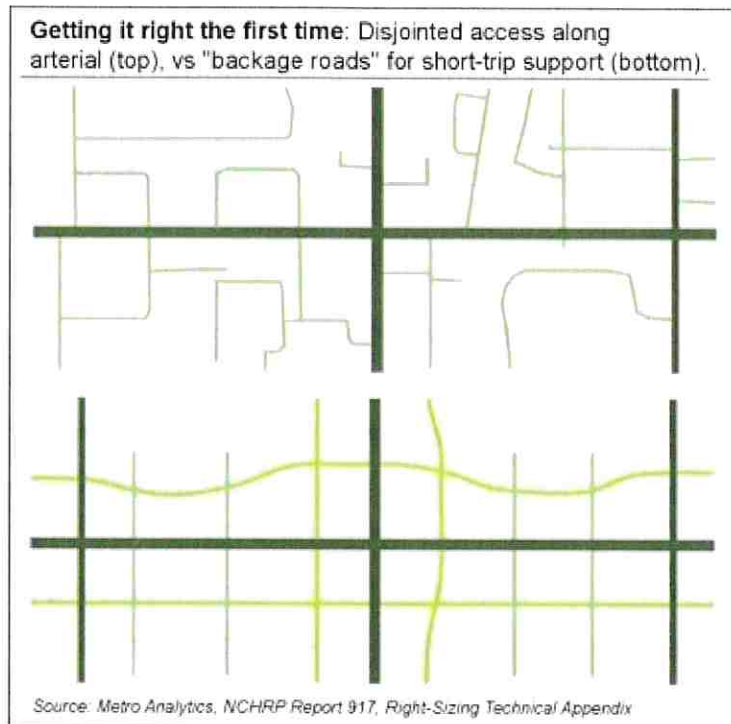


Network Connectivity and Arterial Backage Roads

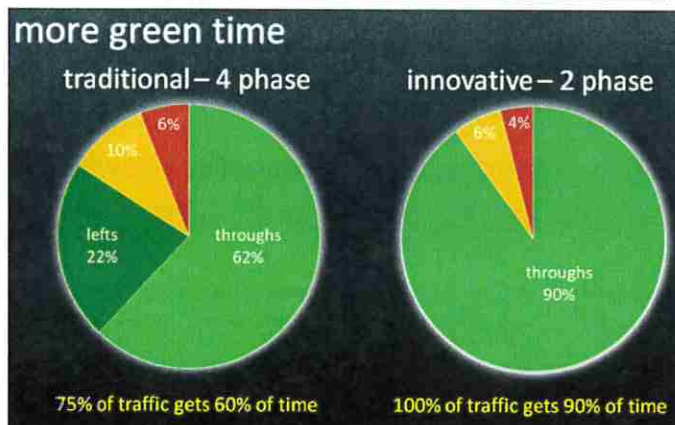
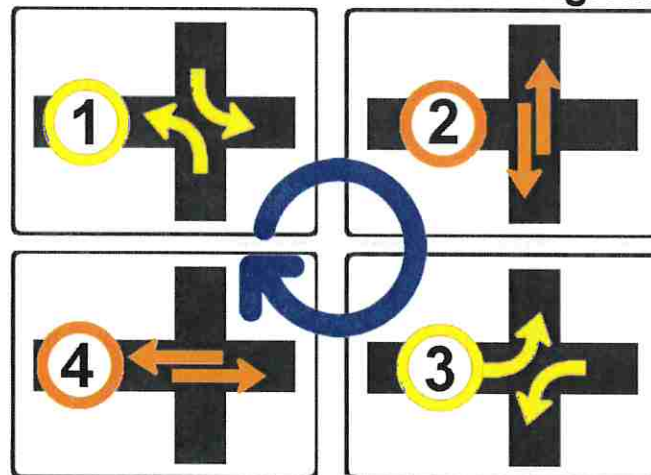
In the graphic below, the top is what typically happens in most communities in America. Cities fail to specify where they want their smallest roads, so each developer does whatever they want. The result is a mess.

In the bottom, cities require "backage roads" so that local circulation can occur without the delay and danger of entering the larger arterial. Frequent cross-streets are an access management strategy that reduces the need for driveways connecting directly to arterials. Developers often have flexibility on where they put a road, but they cannot entirely block its continuity.

The adjacent map identifies suggested connector roadways which would provide continuity and flow on local streets in La Verkin for local traffic.



Traditional Four-Phase Signal



The Main Cause of Congestion

In urbanizing areas, congestion occurs when traffic signals are “upgraded” from two to four-phases so that left-turning vehicles can proceed safely. Such intersections often require double-left lanes (as shown in the illustration on the right). High volumes and a huge number of potential conflicts with other vehicles and pedestrians makes such intersections, anything but walkable.

The Main Cause of Safety Hazards

When an arterial lacks nearby cross-streets or parallel backage roads, developers have no choice but direct driveway access. When vehicles try to turn left from these driveways, they must wait for a safe gap in both directions – hard to do on a multi-lane cross-section where speeds often exceed 5-mph. To reduce crashes, engineers often install raised medians, which force those who want to turn left to instead turn right. While this is great for safety, it often angers businesses because customers complain about it being too hard to get in and out of the business.

Placemaking Alternative Intersections

Recent breakthroughs in roadway design improve all of these things simultaneously:

- Reduced congestion by reducing signal phases
- Improved safety with business-friendly access management
- Walkability via shorter, safer crosswalks, convenient spaces for streetscape, and “drive slower, travel faster” design.

Putting It All Together



One-Way Couplet and Loon Alternative

The **interactive map to the right (use map controls to zoom, pan and expand)** illustrates how the conceptual One-Way Couplet from 200 North to 600 North incorporated with Loons (also known as an RCUT) south of the recommended "Downtown Area" could look like once fully constructed.

Clickable information points (question marks) throughout the map provide context and details to enhance or clarify this recommended alternative. **A legend button is located in the lower left corner of the map. Be sure to pan around to see all the features.**

It is important to note that the one-way couplet is ideally the first piece of realizing a vibrant new "Downtown Area" for the City of La Verkin. **It is also important to understand that the Loons south of the Downtown Area while shown here are to be considered optional, and to be constructed as needed to accommodate appropriate traffic flow through the city.**

High Level Cost Estimates

High-level evaluations of potential construction costs by roadway engineers are:

- One-Way Couplet = \$22 Million Dollars*
- Loon Development = \$24 Million Dollars*

*Includes full treatment for aesthetics, trees, and on street parking.



As the interactive map to the right was conceptual it was necessary to use a different lane configuration during evaluation at SR-17 (500 North). The above graphic represents the lane configuration modeled for evaluation.

PDF Powerpoint Presentation

Strategies Tech Memo

La Verkin Corridor Study Levels of Service (LOS)							
Intersection	Control	Existing					
		Existing	+50%	+70%	+80%	+90%	
		19,200	28,800	32,640	34,560	36,480	
		2022	2032	2040	2045	2050	
SR-9 / SR-17 / 500 North	Signal	B	C	D	D	F	
SR-9 / 200 North	Signal	B	F	F	F	F	
SR-9 NB / SR-17 NB / 500 North	Signal	-	-	-	-	-	
SR-9 / 400 North Loon	Yield	-	-	-	-	-	
SR-9 / 400 North	EB Stop	-	-	-	-	-	
Key		A	B	C	D	E	F

Evaluating the Recommended Alternative

To evaluate the effectiveness of the recommended alternative against existing conditions and future traffic, the alignment and intersections were input into a travel demand model to analyze the Level of Service of SR-9.

The first model evaluated the Existing Conditions and the No Build Alternative at various percentages of traffic increase from the current volumes (2022) to a 90% increase in traffic. The chart clearly identifies that SR-9 begins to fail at a 50% increase in traffic in some locations.

La Verkin Corridor Study Levels of Service (LOS)							
Intersection	Control	One-Way Couplet					
		Existing	+50%	+70%	+80%	+90%	+100%
		19,200	28,800	32,640	34,560	36,480	38,400
		2022	2032	2040	2045	2050	2050+
SR-9 / SR-17 / 500 North	Signal	B	C	C	C	C	C
SR-9 / 200 North	Signal	B	A	A	A	A	A
SR-9 NB / SR-17 NB / 500 North	Signal	A	B	B	B	B	C
SR-9 / 400 North Loon	Yield	-	-	-	-	-	-
SR-9 / 400 North	EB Stop	-	-	-	-	-	-
Key		A	B	C	D	E	F

Evaluating the One-Way Couplet

The second model evaluated the effectiveness of the One-Way Couplet from 200 North to 600 North. As shown in the table, the one-way couplet LOS ranges from A to B, which is very good under the 2022 traffic volumes. As the volumes grow to double the existing traffic, the one-way couplet continues to perform well with a LOS ranging from A to C.

La Verkin Corridor Study Levels of Service (LOS)						
Intersection	Control	Loons				
		Existing	+50%	+80%	+90%	+100%
		19,200	28,800	34,560	36,480	38,400
		2022	2032	2045	2050	2050+
SR-9 / SR-17 / 500 North	Signal	B	C	D	E	E
SR-9 / 200 North	Signal	B	A	A	A	A
SR-9 NB / SR-17 NB / 500 North	Signal	-	-	-	-	-
SR-9 / 400 North Loon	Yield	A	A	A	B	B
SR-9 / 400 North	EB Stop	A	A	A	A	A
Key		A	B	C	D	E

Evaluating the Loons

The third model evaluated the effectiveness of the Loons along the southern end of the corridor as shown in the recommended alternative. As shown in the table, with the loons constructed the LOS ranges from A to B, which is very good under the 2022 traffic volumes. They continue to perform well until they reach traffic volumes 80% greater than in 2022, and begin to fail at 90% greater than in 2022 volumes at the SR-9/SR-17/500 North location, however, continue to range from LOS A to B at the other intersections.

3D Renderings of the One-Way Couplet from 200 N to 600 N and a Loon



over. These buildings are currently at least 100 years old. The
 redevelopment project includes a new 1000-unit building.



[Click to Enlarge Images](#)

Implementation Plan

Walkability and Active Transportation Needs					
Goal Addressed	Solution	Solution Champion	Key Stakeholders	Responsibilities	Timeframe
Goal #1 - Mobility for All Modes Goal #3 - Enhance Economic Development	Construct Sidewalk Recommended in Story Map to Enhance Walkability.	City of La Verkin	City of La Verkin	Develop plan to construct missing or update sidewalks to be ADA compliant. Increased walkability promotes commerce in Downtown Area.	Short Term, 1-5 years
Goal #1 - Mobility for All Modes	Implement Active Transportation Recommendations in Story Map	City of La Verkin	City of La Verkin	Develop plan to construct/stripe bike lanes along Main Street, 300 S, Center Street, 200 N, and 500 N	Short Term, 1-5 years
Goal #1 - Mobility for All Modes Goal #3 - Enhance Economic Development	Complete Proposed Trails Identified in General Plan	City of La Verkin	City of La Verkin	Follow through on constructing planned trails and connectors.	Short Term, 1-5 years
Goal #1 - Mobility for All Modes	Construct a Mobility Hub	SUNTRAN	City of La Verkin, SUNTRAN, UDOT	Work with SUNTRAN and UDOT to develop an appropriate site for a Mobility hub to house, transit, and park and ride opportunities.	Short Term, 1-5 years

Roles and Responsibilities

Key to the future success of the SR-9/SR-17 study corridor is an implementation of the solutions outlined in this study. Specific solutions and projects will need champions to see those ideas through planning, design, and ultimately construction of those projects. In addition, stakeholders will need to be engaged throughout the process to successfully navigate these solutions and projects. The following slides present the solutions, key stakeholders, responsibilities, estimated timeframes, and how they achieve the study goals identified at the onset of the study.

Walkability and Active Transportation Needs

The solutions include constructing recommended sidewalks, implementing Active Transportation Corridors, completing previously proposed trails, and constructing a mobility hub. Key stakeholders for these activities include the City of La Verkin, SUNTRAN, and UDOT. These short-term activities should be considered for implementation in the next 1 to 5 years.

Beautification, Downtown Enhancements and Tourism Needs					
Goal Addressed	Solution	Solution Champion	Key Stakeholders	Responsibilities	Timeframe
Goal #2 - Balance Travel Demand and Community Goals Goal #3 - Enhance Economic Development	Develop a Form-Based Land Use Code with emphasis on One-Way Couplet Area from Center Street to 600 N	City of La Verkin	City of La Verkin	Develop and implement land use and zoning policy focused on creating mixed-use areas within the downtown area.	Short Term, Early 2024
Goal #2 - Balance Travel Demand and Community Goals Goal #3 - Enhance Economic Development	Develop Parking Strategies from a Form-Based Land Use Code	City of La Verkin	City of La Verkin	Develop parking policy focused on encouraging public parking over private in the downtown area.	Short Term, 1-5 years
Goal #3 - Enhance Economic Development	Implement Mixed-Use Areas	City of La Verkin	City of La Verkin	With new land use and zoning policies in place, work with developers to implement mixed use areas in the downtown area.	Short Term, 1-5 years
Goal #3 - Enhance Economic Development	Implement Street Tree Program with Structured Soils, Tree "Zipper"	City of La Verkin, UDOT	City of La Verkin, UDOT	Incorporate Streets trees into future development plans	Short Term, 1-5 years
Goal #3 - Enhance Economic Development	Implement Clean and Aesthetic Branding and Design	City of La Verkin, UDOT	City of La Verkin, UDOT	Develop City Branding and Work with UDOT to incorporate into Highway Design	Short Term, 1-5 years

Beautification, Downtown Enhancements, and Tourism Needs

The solutions include developing a form-based land use code (as highlighted on the right), developing parking strategies, implementing mixed-use areas, implementing street trees, and clean and aesthetic branding. Key stakeholders for these activities include the City of La Verkin, and UDOT. The development of a form-based land use code should be a high priority and completed in the next year. This will help define the Downtown Area and kickoff many of the other activities mentioned here. The remainder of these short-term activities should be considered for implementation in the next 1 to 5 years.

Travel Demand Needs					
Goal Addressed	Solution	Solution Champion	Key Stakeholders	Responsibilities	Timeframe
Goal #1 - Mobility for All Modes Goal #2 - Balance Travel Demand and Community Goals	Implement a Shuttle to/from Zion National Park	SUNTRAN, City of La Verkin	City of La Verkin, SUNTRAN	Work with Zion National Park and SUNTRAN to coordinate a shuttle that services La Verkin.	Short Term, 1-5 years
Goal #1 - Mobility for All Modes Goal #2 - Balance Travel Demand and Community Goals	Create Transit/Rideshare Opportunities	City of La Verkin, SUNTRAN, UDOT	City of La Verkin, SUNTRAN, UDOT	Work with SUNTRAN to coordinate a bus route that connects La Verkin to neighboring cities	Short Term, 1-5 years
Goal #1 - Mobility for All Modes Goal #2 - Balance Travel Demand and Community Goals Goal #3 - Enhance Economic Development	Install Variable Messaging Boards	City of La Verkin, UDOT	City of La Verkin, UDOT	Construct Variable message boards as recommended in this study. Coordinate with UDOT and Zion National Park for information.	Short Term, 1-5 years

Travel Demand Needs

The solutions include implementing a shuttle to/from Zion National Park, creating transit and ride share opportunities, and installing a variable messaging board. Key stakeholders for these activities include the City of La Verkin, SUNTRAN, and UDOT. These short-term activities should be considered for implementation in the next 1 to 5 years.

Transit Needs					
Goal Addressed	Solution	Solution Champion	Key Stakeholders	Responsibilities	Timeframe
Goal #1 - Mobility for All Modes Goal #2 - Balance Travel Demand and Community Goals	Acquire or Preserve Property for Mobility Hub	City of La Verkin	City of La Verkin, SUNTRAN, UDOT	Work with current land owner to purchase property recommended for Mobility Hub	Immediate, 2023
Goal #1 - Mobility for All Modes Goal #2 - Balance Travel Demand and Community Goals	Expand SUNTRAN into La Verkin	SUNTRAN	City of La Verkin, SUNTRAN, UDOT	Coordinate with SUNTRAN and UDOT to move transit plans forward.	Short Term, 1-5 years
Goal #1 - Mobility for All Modes Goal #2 - Balance Travel Demand and Community Goals	Provide Transit Stops/Identify a Dedicated SUNTRAN Mobility Hub		City of La Verkin, SUNTRAN, UDOT	Develop Plans to Construct a Mobility Hub at the recommended location.	Short Term, 1-5 years

Transit Needs

The solutions include acquiring or preserving property for the recommended mobility hub, expanding SUNTRAN into La Verkin, and providing transit stops and constructing a dedicated mobility hub. **As highlighted on the right**, the acquisition or preservation of the property recommended for the mobility hub should be one of the city's highest priorities. Key stakeholders for these activities include the City of La Verkin, SUNTRAN, and UDOT. The remainder of these short-term activities should be considered for implementation in the next 1 to 5 years.

Goal Addressed	Solution	Resilience Needs		Responsibilities	Timeline
		Solution Champion	Key Stakeholders		
Goal #1 - Mobility for All Modes Goal #2 - Balance Travel Demand and Community Goals	Foster the development of Toquerville Parkway	UDOT, City of La Verkin	UDOT, City of La Verkin	Encourage the development of Toquerville Parkway as needed	Short Term, 1-5 years
Goal #1 - Mobility for All Modes Goal #2 - Balance Travel Demand and Community Goals	Upgrade Sheeps Bridge Road	UDOT, City of La Verkin	UDOT, City of La Verkin	Develop a study to determine the feasibility and benefits of the Sheeps Bridge Road Bypass	Mid Term, 5-10 years
Goal #1 - Mobility for All Modes Goal #2 - Balance Travel Demand and Community Goals	Consider the Toquerville-Leeds Connector	UDOT, City of Leeds	UDOT, City of La Verkin, City of Leeds	Coordinate with UDOT and the City of Leeds to further develop roadway	Mid Term, 5-10 years
Goal #1 - Mobility for All Modes Goal #2 - Balance Travel Demand and Community Goals	Consider the 900 North Babylon Road Connector	UDOT, City of Hurricane	UDOT, City of Hurricane, City of La Verkin	Coordinate with UDOT and the City of Hurricane to further develop roadway	Mid Term, 5-10 years

Resilience Needs

The solutions include the development of four corridors that would provide alternative routes for emergency events and first responders. Key stakeholders for these activities include the City of La Verkin, UDOT, the City of Leeds, and the City of Hurricane. The development of the Toquerville Bypass is currently in progress and should be fostered and encouraged by the City of La Verkin by all possible means. The other three bypasses should be considered in the next 5-10 years to help provide resilience to the City of La Verkin's transportation network.

		Congestion and Access Management Needs			
Goal Addressed	Solution	Solution Champion	Key Stakeholders	Responsibilities	Timeframe
Goal #1 - Mobility for All Modes Goal #2 - Balance Travel Demand and Community Goals Goal #3 - Enhance Economic Development	Acquire or Preserve Property for Development of One-Way Couplet	UDOT, City of La Verkin	UDOT, City of La Verkin	Work with UDOT to acquire or preserve ROW to construct the One-Way Couplet	Immediate, 2023
Goal #1 - Mobility for All Modes Goal #2 - Balance Travel Demand and Community Goals Goal #3 - Enhance Economic Development	Complete an engineering/feasibility study to determine cross section, right of way and costs for recommended alternative	UDOT	UDOT, City of La Verkin	UDOT to initiate an Engineering/Feasibility Study to construct the recommended one-way couplet	Immediate, 2023
Goal #1 - Mobility for All Modes Goal #2 - Balance Travel Demand and Community Goals Goal #3 - Enhance Economic Development	Develop One-Way Couplet from 200 South to 600 South	UDOT, City of La Verkin	UDOT, City of La Verkin	Construct the recommended One-Way Couplet	Mid Term, 5-10 years
Goal #1 - Mobility for All Modes Goal #2 - Balance Travel Demand and Community Goals Goal #3 - Enhance Economic Development	Develop Loops or Roundabouts at Key Intersections	UDOT, City of La Verkin	UDOT, City of La Verkin	Construct Loops or Roundabouts at key intersections outside the Downtown Area	Mid Term, 5-10 years
Goal #1 - Mobility for All Modes Goal #2 - Balance Travel Demand and Community Goals Goal #3 - Enhance Economic Development	Develop Backages, Connector Roads, and Alleys to provide better local circulation	City of La Verkin	City of La Verkin	Prioritize and Construct Backage Roads, Connector Roads and Alleys.	Mid Term, 5-10 years

Congestion and Access Management Needs

The solutions include acquisition or preservation for the development of the One-Way Couplet from 200 N to 600 N, the completion of an engineering or feasibility study, the construction of the One-Way Couplet, development of loons at key intersections, and the completion of backage roads, connector roads, and alleys. Key stakeholders for these activities include UDOT and the City of La Verkin. **As highlighted on the right**, the acquisition or preservation of property and an engineering or feasibility study should be immediate priorities for UDOT and the City of La Verkin to begin the implementation of the One-Way Couplet. The actual construction of the One-Way Couplet and other features should be targeted for the next 5 to 10 years.

Safety Needs					
Goal Addressed	Solution	Solution Champion	Key Stakeholders	Responsibilities	Timeframe
Goal #1 - Mobility for All Modes Goal #2 - Balance Travel Demand and Community Goals	Reduce Congestion by Reducing Signal Phases	UDOT, City of La Verkin	UDOT, City of La Verkin	Study Signalized Intersections to determine needs	Short Term, 1-5 years
Goal #1 - Mobility for All Modes Goal #2 - Balance Travel Demand and Community Goals Goal #3 - Enhance Economic Development	Implement Placemaking Alternative Intersections	UDOT, City of La Verkin	UDOT, City of La Verkin	Construct Loops or Roundabouts at key intersections outside the Downtown Area	Short Term, 1-5 years

Safety Needs

The solutions include reducing congestion by reducing signal phases and implementing placemaking alternative intersections. Key stakeholders for these activities include UDOT and the City of La Verkin. These short-term activities should be considered for implementation in the next 1 to 5 years.

[Download the Implementation Plan](#)

Study Downloads

Use the buttons below to download various supporting documentation created for this presentation.

[PDF Powerpoint Presentation](#)

Strategies Tech Memo

Implementation Plan PDF

Workshop #1 Meeting Summary

Workshop #2 Meeting Summary

Workshop #3 Meeting Summary

ARTICLE C1. MULTIPLE-FAMILY RESIDENTIAL (R-1-6)

SECTION:

[10-6C1-1: Purpose](#)

[10-6C1-2: Permitted Uses](#)

[10-6C1-3: Height Regulations](#)

[10-6C1-4: Area, Width And Yard Requirements](#)

[10-6C1-5: Modifying Regulations](#)

[10-6C1-6: Grandfathered Uses](#)

10-6C1-1: PURPOSE:

To provide appropriate locations where low density, one-family residential neighborhoods may be established, maintained and protected. The regulations also permit the establishment of public and semipublic uses such as churches, schools, libraries, parks and playgrounds, which serve the requirements of families. The regulations are intended to prohibit those uses that would be harmful to these neighborhoods. (Ord. 2009-02, 2-18-2009)

10-6C1-2: PERMITTED USES:

Accessory buildings.

Agriculture, including home gardens and fruit trees.

Churches.

Home occupations.

Household pets.

Livestock: no animals other than household pets shall be allowed on properties that are six thousand (6,000) square feet or smaller in size. subject to the provisions of section [10-7-19](#) of this title.

One-family dwellings.

Parks or playgrounds.

Public libraries.

Public schools.

Small/open congregate living facilities. (Ord. 2008-07, 5-7-2008; amd. Ord. 2009-02, 2-18-2009; Ord. 2013-10, 8-21-2013, eff. 2-17-2014)

10-C1-2-1: BED AND BREAKFAST FACILITIES:

See section [10-7-20](#) of this title. (Ord. 2018-01, 1-3-2018; amd. Ord. 2022-10, 9-21-2022)

10-6C1-3: HEIGHT REGULATIONS:

No building shall be erected to a height greater than thirty-five feet (35'). No accessory building shall be erected to a height greater than twenty feet (20') except that the City shall not impose or restrict the height of a structure in a manner that imposes a substantial burden on the religious exercise of a person, including a religious assembly or institution, unless the City demonstrates that imposition of the burden on that person, assembly or institution:

- A. Is in furtherance of a compelling governmental interest; and
- B. Is the least restrictive means of furthering that compelling governmental interest. (Ord. 2008-07, 5-7-2008)

10-6C1-4: AREA, WIDTH AND YARD REQUIREMENTS:

District	Minimum Lot Area In Square Feet	Lot Width In Feet	Setback In Feet		
			Front	Side	Rear
R-1-6	6,000	60	25	8 and 10	10

(Ord. 2008-07, 5-7-2008)

10-6C1-5: MODIFYING REGULATIONS:

- A. Side Yard: Private garages or other accessory buildings located at least ten feet (10') behind the main building may have a side setback of two feet (2').
- B. Rear Yards: Private garages and accessory buildings located at least ten feet (10') behind the main building may have a rear setback of two feet (2'). (Ord. 2008-07, 5-7-2008)
- C. Easement Required: All lots shall have easements on side and rear property lines a minimum of seven and one-half feet (7¹/₂') and on a street side property line of ten feet (10') minimum, to be used for utilities and drainage.
- D. Accessory Buildings: No accessory building or group of accessory buildings shall cover more than eight percent (8%) of the total lot area.
- E. Garages Required: Minimum garage size shall be twenty feet by twenty feet (20' x 20'). (Ord. 2008-07, 5-7-2008; amd. Ord. 2013-10, 8-21-2013, eff. 2-17-2014)

(Renovations of existing garages into living space is not allowed, unless a new garage can be built within the sizing limits of this zone.

*** Thought behind this is to insure that proper amounts of off street parking are given and this removes the ability of those parking spaces to be removed causing a greater impact to city streets with parking on roadways becoming more prevalent.)**

- F. Lot Size: An area of not less than Six thousand (6,000) square feet shall be provided and maintained for each one-family dwelling and uses accessory thereto. (Ord. 2009-02, 2-18-2009; amd. Ord. 2013-10, 8-21-2013, eff. 2-17-2014)

