

# MILLARD COUNTY

## TRANSPORTATION MASTER PLAN

prepared by



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*Millard*  
COUNTY



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## DEFINITIONS

**Average Daily Traffic (ADT)** – The average number of vehicles passing a specific point on a roadway in either direction over a 24-hour period. Total volumes are collected over a period of time - for this study, approximately ten days were collected for each location - and divided by the number of days collected (see Section 2.5.3).

**Class B and C Funds** – Funding distributed by the Utah Department of Transportation (UDOT) for Class B and Class C road maintenance and improvements (see Section 2.9.1).<sup>1</sup>

**Class B Road** – Class B Roads are those that run over and along routes that have been claimed by Millard County as rights-of-way for public motorized travel. The State of Utah and Millard County have joint undivided interest in the title to all Class B Roads in the County; however, the County has sole jurisdiction and control over all Class B Roads in the County. Class B roads are referred to in relevant Millard County Codes as “County roads”.

### Class B Roads

- (a) Are located anywhere within the borders of Millard County outside the boundaries of incorporated municipalities,
- (b) Are situated on any private land or any land controlled by any state, tribal, or federal government or government agency,
- (c) Are not designated as state highways, and
- (d) Have been designated by Millard County as Class B County roads.

**Class D Road** – Any road, way, or other land surface route that has been or is established by use or constructed and has been maintained to provide for usage by the public for vehicles with four or more wheels that is not a class A, class B, or class C road.” **Class D roads are not included in any way within this TMP for reference or analysis. Reference to this TMP may not be made for any legal action or analysis involving Class D roads. Any use of analysis, reference, or legal action based upon this TMP regarding Class D roads would require an amendment to the TMP.**

**County Road Rights-of-Way** – means the corridor width for the road itself, all of its appurtenant shoulders, culverts, drains and turnarounds, etc., and any additional corridor width that constitute the County’s rights-of-way thereof, plus any and all other rights-of-way acquired by Millard County in or appurtenant to the corridor width, all of which Millard County has acquired by any legal means, including but not limited to conveyance, construction with County resources, prescriptive use, or dedication for public use.

**Geographic Information Systems (GIS)** – GIS is used to create spatial databases for mapping data. Spatial information, such as locations and lengths of roadways, can be uploaded to an online map that can be organized by data feature type and presented visually.

**Level of Service (LOS)** – A method of determining the quality of traffic flow based on volume and capacity (see Sections 2.6 – 2.7).

**Traffic Impact Study (TIS)** – A study performed prior to construction of a new development or redevelopment to determine possible impacts to the transportation network and community.

**Transportation Corridor** – A linear pathway that defines the footprint of an existing or future transportation facility, including road surface and rights-of-way. This can be vehicular, pedestrian, bicycle, rail, etc. (see Section 7).

**Vehicle Miles Travelled (VMT)** – All miles traveled by vehicles on a given roadway over a period of time. Can be used as a method of comparison between roadways to determine roadway classification (see Section 2.2.7).

<sup>1</sup>Transportation Fund and Highway Finances, Utah Code §72-2-1, Enacted 1998. <https://le.utah.gov/xcode/Title72/Chapter2/72-2-S102.html>

# MILLARD COUNTY TRANSPORTATION MASTER PLAN





# 1 INTRODUCTION

## 1.1 Background

Millard County is located in central Utah ranging from the Nevada border to the east of I-15. The County is home to roughly 13,000 residents and sustained by the strong industrial, agricultural, and mining industries. Delta and Fillmore are the largest cities in Millard County making up nearly 50% of the population. The terrain in Millard County ranges from flatlands to high mountain ridges with the Sevier River cutting through the middle of the basin.

## 1.2 Need for a Study

The primary purpose of a transportation system is to keep people and goods moving to their destination in a safe and efficient manner. Without planning for future growth and continually improving its transportation system, Millard County could experience significant transportation problems. Increasing traffic demands must be met by a living transportation system and transportation planning document. Proper planning for the whole County ensures that all traffic demands and transportation modes are assessed, including vehicles, bicycles, heavy truck traffic, pedestrians, and rail. The transportation study will ensure that the unique qualities of Millard County are preserved while providing increased access to all facilities and accommodating all traffic demands.

This TMP is for planning purposes. Maps created in this plan are illustrative and do not replace the official Millard Transportation Map.

## 1.3 Transportation Planning Purpose

The purpose of this study is to develop a Transportation Master Plan (TMP) for Millard County to be used as a roadmap for future planning and development in the County. The primary objectives of the TMP are as follows:

1. Analyze existing traffic and roadway conditions to determine likely growth patterns and future transportation-related needs,
2. Plan for future transportation-related development and funding acquisition,
3. Guide future development by establishing transportation-related development standards,
4. Provide a framework for the preservation and establishment of transportation corridors and related access management facilities, and
5. Create a Geographic Information System (GIS) Story Map that includes all planning data from the TMP as well as other relevant County GIS data.

These objectives will allow the County to establish a transportation system plan that will ensure a continuingly

functional transportation system.

### 1.3.1 Analysis of Existing Traffic and Roadway Conditions

The analysis of existing traffic and roadway conditions is included in Section 2 of this document, which includes the following information:

- Existing land use data and maps,
- Existing demographic and socioeconomic data,
- Future population growth estimates,
- An inventory of the existing roadway network, including:
  - Functional classification of vehicle roadways,
  - The active transportation network, and
  - The rail network.
- Daily traffic count data at specified locations throughout the County,
- Vehicle crash data and patterns, and
- Existing funding sources and opportunities.

By analyzing the existing conditions, a baseline can be established for projections of future development.

### 1.3.2 Plan for Future Development and Funding Acquisition

Future planning addresses the transportation needs of the County as determined by the analysis of existing traffic and roadway conditions. Planning for future growth in Millard County is analyzed and described in Section 3. These needs include, but are not limited to:

- Traffic signal needs,
- Infrastructure maintenance, including bridges, sidewalks, and roadways,
- Traffic safety concerns,
- Development and land use changes,
- Future projects, and
- Funding opportunities.

Specified future planning projects are separated into short-range and long-range transportation plans. The short-range transportation plan addresses the deficiencies in the existing system and the developments currently planned for the upcoming (approx.) ten years. The long-term transportation plan is a high-level analysis and focuses primarily on general land-use allocation and zoning (ten to twenty years). In addition, any

projects which require extensive advance planning and funding or which are deemed necessary but will not be needed for 20+ years will be part of the long-term plan.

The short-range transportation improvement plan is included in Section 5.1 and the long-range transportation improvement plan is included in Section 5.2.

### 1.3.3 Establishment of Transportation-Related Development Standards

As part of this Transportation Master Plan, the County seeks to establish standards development standards for both private and public development. These development standards include:

- Roadway typical section standards,
- Right-of-way (ROW) width standards by functional classification type,
- Driveway approach and access design standards, and
- Traffic Impact Study (TIS) standards and policies.

Establishment of these standards within the framework of the TMP document helps to ensure that development and future growth occur in a manner consistent with the desires of the County, its residents, and its culture. Section 4 outlines the TIS standards and policies.

### 1.3.4 Preservation of Corridors and Access Management

This document will outline the County's ability to establish transportation corridors as well as the restrictions involved in corridor preservation. Corridor preservation is essential in planning for future transportation network growth. Furthermore, Corridor preservation ensures that unwanted development does not occur and that desired developments occur in locations most cohesive and integrated to the transportation network. Corridor preservation techniques and other information are included in Section 7.

Access management principles are used to balance roadway access with mobility. Function classification, described in Section 2.4, is integral in determining access management needs and practices. Guidelines, standards, and information on access management are included in Section 6.

### 1.3.5 GIS Story Map

GIS data is used by the County to accurately locate and inventory transportation-related infrastructure and information. Much of the information included in this study will be added to maps which will visually present the study data and future planning. Many of these maps will be included in the Transportation Master

Plan document (most are in the appendices). They will also be added to the online story map available on the County's website. This online story map is intended to be a living story map, just like the TMP document, and susceptible to maintenance and changes after adoption due to disparities between projected and actual growth. The online story map is interactive in nature and provides the user with the ability to access spatial data in an organized and visual medium. This story map provides an alternative method for private individuals, private organizations, and public entities to access County transportation-related plans and standards.

### 1.3.6 Transportation Planning Purpose Summary

The transportation planning purpose has been described in this section. In summary, the following list of items will be addressed and included in the Transportation Master Plan.

- Analysis of existing conditions (Section 2)
- Plan for future conditions (Section 3)
- Standards for Traffic Impact Studies (Section 4)
- Short-Term and Long-Term Transportation Improvement Plans (Section 5)
- Access management standards (Section 6)
- Corridor preservation techniques and guidelines (Section 7)
- Other Future Actions (Section 8)

## 1.4 Study Goals

Establishment of a reliable, sustainable, and efficient transportation network provides many net positives for the County. Some of these benefits include improved mobility, citizen health, connectivity, and economy. The Utah Department of Transportation (UDOT) has established a quality of life framework with which Millard County seeks to comply and build upon. UDOT's quality of life framework is built on four factors: Better Mobility, Good Health, Connected Communities, and Strong Economy.<sup>2</sup> These factors, when prioritized, can provide the integral benefits a healthy transportation system seeks to supply. This section will explain how Millard County seeks to integrate this quality-of-life framework into its transportation planning.

### 1.4.1 Better Mobility

Millard County seeks to improve mobility within the County by prioritizing established corridor preservation techniques, access management principles, roadway ROW and functional classification standards, and other development standards. Mobility improves when roadways are designed by functional

<sup>2</sup>Utah Department of Transportation, "2023 UDOT Strategic Direction," Utah Department of Transportation, 2023, <https://www.udot.utah.gov/strategic-direction/index.html#missionSection>.



classification type. This ensures that mobility and access are balanced and applied respective to specific roadway demands. Millard County commits to finding the most cost-effective and efficient alternatives to future roadway design. Future planning ensures that the roads which will provide the most effective levels of mobility are the roads that get built. Millard County seeks to address, where possible, mobility deficiencies in the existing roadway network caused by undermaintained roads, unpaved roads, under signalized roads, or lack of redundancies.

#### 1.4.2 Good Health

Millard County seeks to improve citizen health by expanding its active transportation network. By coordinating with cities and towns within the County as well as with UDOT, it is desired that a cohesive and interconnected active transportation network can be established. This will allow residents and visitors of Millard County the ability to enjoy the community, culture, and natural beauty of the County, as well as nearby counties and municipalities. Millard County also seeks to improve citizen health by seeking safety and sustainability-focused alternatives in planning, construction, and maintenance of County transportation facilities. These alternatives will allow the County to lessen its environmental and safety impacts. Millard County desires its residents to live with the benefits of safer roadways, cleaner air, and expanded active transportation opportunities.

#### 1.4.3 Connected Communities

Millard County seeks to improve both its interconnectedness with other counties, states, and municipalities as well as its interconnectedness within the County itself. As mentioned in Section 1.4.1, the County seeks to balance mobility and access in future roadway design. The County desires to maintain existing roadways that connect communities and plan new roadways which will expand the connectivity potential of its residents. The County will do this through application of corridor preservation techniques, access management principles, and establishment of transportation improvement plans. The County will seek the input of transportation and roadway professionals, residents, and other County officials and professionals to ensure that every community's concerns and needs are considered and addressed.

#### 1.4.4 Strong Economy

Millard County recognizes the benefits to the economy of a functional and efficient transportation network. The County desires to address and conceive potential development concepts in its planning which provide the greatest economic benefits while remaining consistent with the culture and desires of the community. Future roadway planning should be consistent with planned development and growth already present within the County. The County also seeks to find transportation alternatives that can improve the transportation experience for local commuters, travelers, tourists, and freight.

### 1.5 Study Process

Each step of the study process for the Transportation Master Plan is outlined as follows:

1. Coordination between County officials, contractors, and other local and state entities (This coordination continues throughout the entire study process.).
2. Analysis of existing conditions.
3. Analysis of future conditions.
4. Future project planning.
5. Establishment of development standards.
6. Public Input.
7. Final review by UDOT and by County officials.
8. Final changes to document based on public input, and review by UDOT and County officials.
9. Adoption by the County Commission.
10. Publish on County's website as Transportation Master Plan document and as GIS Story Map.

#### 1.5.1 Coordination with Local, State, and Federal Governments

Millard County recognizes the need to coordinate with local, state, and federal governments throughout the planning process to ensure that cohesive and effective transportation networks are established throughout the County. Funding for many transportation projects comes from state and federal sources, and established coordination and cooperation with these entities is beneficial in ensuring future funding opportunities. Several state and federal highways are also present throughout the County, and coordination with these entities ensures that these highways are maintained and the County's needs relative to these highways are addressed. The County owns roadways and highways that intersect with these state and federal highways, and coordination for maintenance, signalization, and other needs is essential in establishing fluidity between networks.

Millard County consists of four cities, six towns, and three census-designated places. Coordination between these entities ensures that the County's roadways are benefitting the needs of residents within these communities.

A public open house allows the public to provide input and voice concerns regarding Millard County's Transportation Plan. Public comments are included in **Appendix 7**. All feedback, concerns, and questions from the public, Utah Department of Transportation, and local governments were evaluated by Millard County. Where possible and necessary, the County seeks to inform and be informed by local, state, and federal entities about transportation-related changes, plans, and standards.

## 2 EXISTING CONDITIONS AND FUTURE PROJECTIONS

An inventory of existing conditions was created to assist in determining future expansion, development, and maintenance needs.

### 2.1 Land Use

Millard County's Land Use Ordinance can be found online <https://millardCounty.org/your-government/about-the-County/Countycode>. Coordination between roads and land use is essential in determining the most beneficial and efficient development of new roadways. Millard County has established zoning districts for the entire County. Road development should exist to support the zoning established.

### 2.2 Demographic & Socioeconomic Data

Demographic and socioeconomic data help Millard County understand the past, present, and future transportation needs throughout the County. The following subsections outline some of the relevant data from the United States Census Bureau and other sources. Additional figures and data can be found in the GIS Story Map and in Appendix 9.

#### 2.2.1 Population Data and Growth

Table 1 shows the 2020 census population and housing data for Millard County. Table 2 compares the population growth for Millard County and the State of Utah from 1950 to 2020. This data was used to calculate an annual growth rate. This annual growth rate was used as a reference point to determine the growth rate for Average Annual Daily Traffic (AADT) growth projections (see Section 3.2).

Table 1 - County Population and Housing Data<sup>4</sup>

Population	Housing Units	Area (sq mi)	Population Density (persons/sq mi)	Housing Density (housing units/sq mi)
12,975	5,031	6,828	1.95	0.74

Table 2 - Population Growth Trends

Year	State of Utah <sup>3</sup>	Millard County <sup>4</sup>
1950	688,862	9,387
1960	890,627	7,866
1970	1,059,273	6,988
1980	1,461,037	8,970
1990	1,722,850	11,333
2000	2,233,169	12,405
2010	2,763,885	12,541
Average Annual Growth (1950-2010)	2.4%	0.56%
2020	3,271,616	13,330
Average Annual Growth (2010-2020)	1.7%	0.63%

Population growth is an important consideration when developing and improving a transportation system. Many factors affect the population and traffic growth, and the population and traffic volumes do not always increase or decrease proportionately. Millard County is actively seeking opportunities to develop industrial, commercial, and residential areas throughout the County. Roadways and transportation facilities will need to be improved to meet the traffic demand that this development will create.

Proper transportation planning helps this development occur. It also creates more functional developments that improve the citizens quality-of-life. Planning for a higher growth rate can help Millard County's transportation system stay ahead of traffic demands and prepare for unexpected growth. However, planning with too high of a growth rate may lead to inefficient use of funds regarding the transportation system. Through engineering analysis, a traffic growth rate of 1.5% was selected and will be used throughout this report. This analysis included the consideration of population growth, tourism growth, commercial traffic growth, and more.

#### 2.2.2 Additional Demographic and Socioeconomic Data

In Millard County, 73 percent of the population is under the age of 5, 30.9 percent is under the age of 18, and 17.6 percent are over the age of 65. 93.2 percent of the population is white (including Hispanic or Latino) and the other 6.8 percent are other races. As of 2021 there were 275 employer establishments in the County employing 3,318 employees. 61.6 percent of the population over the age of 16 was in the civilian labor force in 2021.

Millard County's demographics are comparable to the State's in many categories. However, Millard County's demographic areas differ from that of the state in a few key areas. The information used for comparison in this section is per the 2020 U.S. Census, unless otherwise specified. Age and sex statistics differ in Millard County with a 5.6% higher percentage of persons over 65 years old. This corresponds with a lower percentage of persons under 18 years old and persons under 5 years old. Racial differences between Millard County and the State show a lower percentage in all ethnicities except White (not Hispanic or Latino) in Millard County.

Key differences between the County and the State are present with education, income, and housing. Both the County and the State have around 90% of high school graduates above the age of 25, but the state has 35.4% of persons above the age of 25 with a bachelor's degree or higher, compared to the County's 23.5%.



The median household income (2021 dollars) was \$66,304 in Millard County and \$79,133 in the State. In contrast, the per capita income (2021 dollars) was \$26,164 in Millard County which is lower than the \$33,378 in the State. The percentage of residents

who live in owner-occupied housing is similar, roughly 71% in the County and in the State. However, the median value of owner-occupied housing varies greatly. The County's median home value is \$182,100 while the State's median home value is nearly

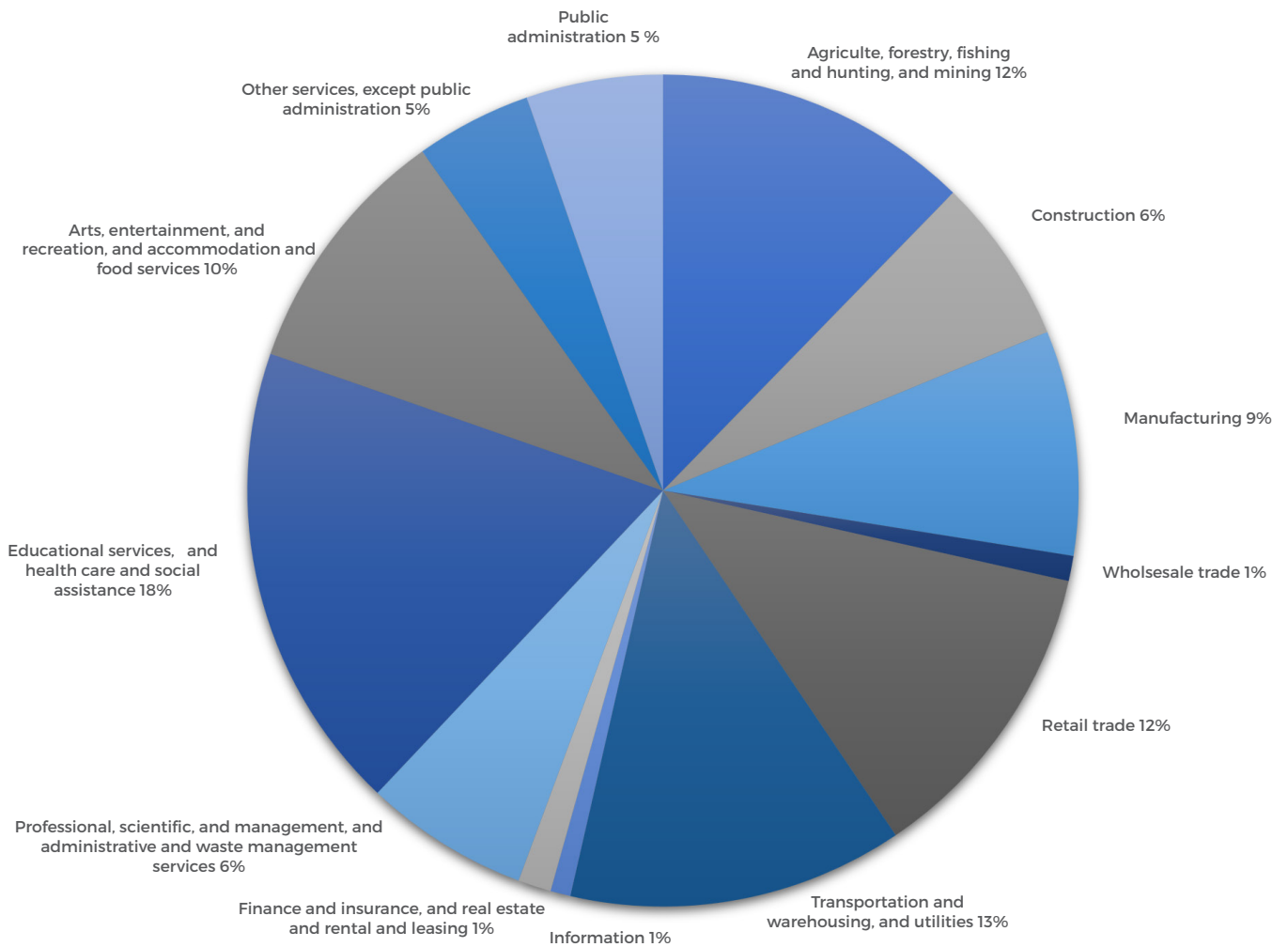


Figure 1 - Employment Data<sup>6</sup>

<sup>6</sup>United States Census Bureau, "Selected Economic Characteristics," United States Department of Commerce, Accessed July 14, 2022. <https://data.census.gov/table?q=millard%20County%20utah%20employment>

### 2.3 Roadway Network Inventory

A roadway network inventory organizes all County roadways by functional classification. It also provides information on roadways including crash data, vehicular volume, and roadway surface type. A visual representation of the roadway network inventory can be found in the online story map.

The following information was gathered for the existing roadway network:

- Number of lanes
- Roadway segment lengths
- Daily Traffic counts, speeds, and vehicle classifications on selected roadway segments
- Planned and funded roadway improvement projects
- Vehicle crash information

The County roadway network provides the dominant means of transportation for this area, with the state highway system serving as the backbone for this network. Vehicular travel relies heavily on a well maintained and complete roadway network.

### 2.4 Functional Classification

Roadway functional classification is used by the United States Department of Transportation (USDOT) and UDOT to categorize highways and other roadways. This categorization assists planners and designers in creating roadways compatible with intended needs of the roadway network. The American Association of State Highway and Transportation Officials (AASHTO) describes functional classification as the process of "[defining] the role of each roadway in serving motor-vehicle movements within the overall transportation system." It is an organized system with established parameters.

Roadway networks can be categorized into rural and urban. Millard County's roadway network functions as a rural network. Functional classification is defined in a hierarchical structure based upon factors including roadway design volume, speed, access, and mobility. Functional classification categories will now be described for Millard County's network. These functional classification definitions are listed in hierarchical order from highest mobility and lowest accessibility to lowest mobility and highest accessibility.

#### 2.4.1 Freeways

The national interstate highway system is a network of federally controlled toll-free highways. President Dwight D. Eisenhower signed the Federal-Aid Highway Act of 1956 officially establishing the interstate system. These highways are designed with high speeds and limited access to maintain maximum mobility. Freeways utilize grade-separated interchanges to limit congestion and other access-related issues.

Interstate 15 (I-15) and Interstate 70 (I-70) are the only federal freeways in Millard County. I-15 runs North-South and has two lanes in each direction throughout the County. I-70 begins in the Southeast corner Millard County and runs East-West. At around

milepost seven, I-70 enters Sevier County. There are eleven grade-separated interchanges in Millard County for the two interstates. These interchanges provide access to municipalities throughout the County and connect state highways to the interstates.

#### 2.4.2 State Highways

State highways, like freeways, are designed with emphasis on high mobility and high speed. These highways, however, are not generally grade-separated at intersections and can have traffic-control at intersections, particularly within municipalities. These are toll-free state-controlled highways. These are generally designed as arterials and major collectors throughout counties within the state.

State highways in Millard County include:

- SR 6 – This highway stretches from the Utah-Nevada state line through Delta and across Millard up to I-15 in Santaquin.
- SR 21 – This highway begins at the Utah-Nevada state line near Garrison and runs Southeast into Beaver County towards Beaver City.
- SR 159 – This eight-mile-long highway connects SR-21 to SR-6 near the Nevada border.
- SR 257 – This highway runs from SR-21 in Milford through Black Rock and Deseret to Route 6 near Hinckley.
- SR 50 – This highway spans the distance from Delta to I-15 near Holden. It then continues in Scipio and heads into Sevier County toward Salina.
- SR 133 – This highway begins at the I-15 Meadow interchange and ends at the South end of Kanosh. This roadway acts as Main Street for Kanosh and Meadow.
- SR 99 – This highway acts as Main Street for Fillmore connecting the north and south I-15 interchanges in Fillmore.
- SR 100 – This highway begins in Fillmore connecting SR-99 to SR-50 West of Holden.
- SR 64 – This highway spans the two-mile distance from the I-15 interchange south of Holden to SR-50.
- SR 125 – This highway runs from Leamington through Oak City and intersects State Routes 50 and 136 near the Delta Municipal Airport.
- SR 136 – This three-mile-long highway connects SR-6 to SR-50 and SR-125 around the East Side of the Delta Municipal Airport.
- SR 174 – This highway (also called Brush Wellman Road) intersects SR-6 and stretches toward Sugarville. SR-174 is eight miles long and ends at Jones Road.
- SR 132 – This highway connects SR-6 in Lynndyl to SR-89 North of Ephraim in Sanpete County. It also intersects SR-125 in Leamington, SR-28, and I-15 in



Nephi. The first 8.5 miles of the highway are within Millard County Boundaries.

### 2.4.3 Arterials

Principle arterials transport longer-distance traffic flow for regional, intercommunity, and commuting purposes. These streets typically have relatively high speeds and can carry sizeable traffic volumes for longer distances. Outside of municipalities, accesses and intersections are ideally spaced no less than one mile apart. Arterials should be designed with the focus on mobility and should be given priority at intersections with other roadways where applicable.

Principal arterials include:

- SR-50

Minor arterials include:

- SR-6
- SR-257

### 2.4.4 Major Collectors

Major collectors, like arterials, prioritize mobility and commuting traffic, however, they typically transport lower traffic volumes. These roadways typically connect minor collectors and local roads to arterials or highways. Access to residential developments and rural facilities is more common in major collectors than with arterials. 1000 W, Jones Road, Brush Wellman Rd near Delta and Sugarville are examples of major collectors in Millard County.

### 2.4.5 Minor Collectors

Minor collectors provide access by connecting communities and neighborhoods. These roads funnel traffic from major collectors or arterials to local streets. Many County roads that do not have the traffic volumes to be classified as major collectors are considered minor collectors. Lone Tree Rd, 3000 W (near Delta), and Cedar Mountain Rd are classified as minor collectors.

### 2.4.6 Local Roads

Local roads connect adjacent properties whether residential buildings or commercial facilities. This requires frequent access points and intersections which leads to frequent stops. Therefore, local roads will have lower speed limits and span shorter distances. Due to low population and spread-out geography many County roads are classified as local roads. The following are examples of local roads under County jurisdiction.

- 2000 W – near Sutherland and Sugarville
- 7500 N – near Sugarville
- Black Rock Rd. – near Cove Fort
- Foothill Dr. – near McCornick

### 2.4.7 Vehicle Miles of Travel (VMT)

Vehicle Miles of Travel (VMT) is a method established federally to determine the amount of vehicular usage for a specified roadway. VMT is calculated as the total miles of vehicular travel

for a specified roadway over a specified period of time. The VMT for each roadway was calculated using two different sources. The first source constituted counts that were conducted on each of the listed roadways as part of this study. The second source was comprised of counts that were obtained from UDOT as part of their on-going counting procedures. The VMT was calculated as the product of the average daily traffic of each roadway and its respective length. The VMT was then used to help determine the functional classification of each roadway in the study area.

The Federal Highway Administration (FHWA) guidelines limit the percentage of road miles that can be designated as each functional classification. These guidelines also regulate the percentage of VMT for each functional classification.

The allowable percentages for each classification are shown in **Table 3**.

**Table 3 - Allowable Percentage of Road Miles and VMT<sup>7</sup>**

Functional Classification	Rural		Urban	
	Mileage	VMT	Mileage	VMT
Major Collectors	8%-19%	10%-23%	10%-17%	12%-24%
Minor Collectors	3%-15%	1%-8%	5%-13%	3%-10%
Local Roads	62%-74%	8%-23%	66%-74%	7%-20%

## 2.5 Roadway Conditions

The current condition of each roadway is explained in this section. The condition of the roads serves as a basis for how well the transportation system functions.

### 2.5.1 Travel Lanes

Most roads within Millard County jurisdiction consist of two travel lanes. Various roadway segments consist of three lanes, the third lane acting as a climbing or passing lane. Several unpaved roads across the County consist of a single travel lane.

### 2.5.2 Surface Conditions

All state highways and arterials in Millard County are paved. The majority of study roadway segments for the County are paved, however, some dirt and gravel roadways were also analyzed. Many of the rural and mountainous roads are unpaved. Included in the TMP Story Map is a layer showing the surface type of all roadways in the study.

### 2.5.3 Traffic Volumes

Traffic volumes indicate the travel demand of existing roadways and the importance of the roadway for an area. Roadways with the greatest impact generally have the highest traffic volumes. Traffic volumes and road capacity are used to determine how well a road is functioning. The average daily traffic (ADT) is one of the most common metrics to analyze the amount of traffic a road experiences. ADT refers to the amount of traffic passing a certain point on an average day. This includes both directions of traffic. The projected ADT values were calculated using a 1.5% growth rate. For more information on population and traffic growth see

<sup>7</sup>Federal Highway Administration, "Planning Processes: Statewide Transportation Planning," United States Department of Transportation, September 27, 2017, [https://www.fhwa.dot.gov/planning/processes/statewide/related/highway\\_functional\\_classifications/section03.cfm](https://www.fhwa.dot.gov/planning/processes/statewide/related/highway_functional_classifications/section03.cfm).

Section 2.2.1 of this report.

Current and projected traffic volumes for select roadways in Millard County can be found in **Table 4**, Appendix 8, and in the TMP Story Map.

**Table 4 - Average Daily Traffic on Selected Millard County Roads**

Roadway	Current ADT (2023)	Projected ADT (2033)	Projected ADT (2043)
200 S (Fillmore)	267	311	363
500 W (Delta)	676	786	915
1000 N (Delta)	587	683	795
1000 S (Delta)	573	667	775
1000 W (Delta)	1883	2189	2544
2000 W (Delta)	353	411	479
3000 W (Delta)	826	961	1117
4000 W (Delta)	276	322	376
7500 N (Sugarville)	291	339	395
Black Rock Road (Cove Fort)	31	37	44
Brush Wellman Road (Sugarville)	1219	1417	1648
Cedar Mountain Road	686	798	929
Clear Lake Road	32	38	45
Northeast Holden Frontage Road	274	320	372
East Meadow Frontage Road	836	973	1131
West Meadow Frontage Road	234	273	318
Flowell Scenic Highway	599	697	811
Foothill Drive (McCormick)	138	161	188
Gandy Highway (Nevada Border)	86	101	118
Jones Road (Delta)	1881	2186	2541
Lonetree Road (Delta)	1133	1318	1532
North Jones Road (Sugarville)	1310	1524	1771
Kanosh Main Street	237	276	322
4500 S (Delta)	463	539	627

\*Assumed traffic volume growth rate of 1.5% per year

### 2.6 Level of Service

Traffic volumes and traffic flow of each roadway are used to determine a level of service (LOS) rating. The LOS is a measurement of the ability of a road to meet the traffic demand. LOS classifications are categorized with a letter rating A, B, C, D, E, and F. Free-flowing traffic is considered LOS A, and maximum levels of vehicle congestion would be considered LOS F. A lower LOS rating (such as LOS E and LOS F) indicates that the roadway is not functioning effectively and can cause mobility and safety concerns. A LOS D is considered acceptable for most applications. See Millard County standards for acceptable levels of service on each roadway functional classification. The existing and projected LOS for select Millard County roadways

was calculated assuming a 1.5% traffic growth rate and that no improvements are made on the roadways. **Table 5** shows the current and projected LOS for the selected Millard County Roadways.

**Table 5 - Level of Service of Selected Millard County Roads**

Roadway	Current LOS (2023)	Projected LOS (2033)	Projected LOS (2043)
200 S (Fillmore)	A	A	A
500 W (Delta)	A	A	A
1000 N (Delta)	A	A	A
1000 S (Delta)	A	A	A
1000 W (Delta)	C	C	D
2000 W (Delta)	A	A	A
3000 W (Delta)	A	A	A
4000 W (Delta)	A	A	A
7500 N (Sugarville)	A	A	A
Black Rock Road (Cove Fort)	A	A	A
Brush Wellman Road (Sugarville)	C	C	C
Cedar Mountain Road	A	A	A
Clear Lake Road	A	A	A
Northeast Holden Frontage Road	A	A	A
East Meadow Frontage Road	A	B	B
West Meadow Frontage Road	A	A	A
Flowell Scenic Highway	A	A	A
Foothill Drive (McCormick)	A	A	A
Gandy Highway (Nevada Border)	A	A	A
Jones Road (Delta)	C	C	D
Lonetree Road (Delta)	A	A	B
North Jones Road (Sugarville)	B	B	C
Kanosh Main Street	A	A	A
4500 S (Delta)	A	A	A

\*Assumed traffic volume growth rate of 1.5% per year.

### 2.7 Volume to Capacity Ratios

The volume to capacity ratio (V/C) measures the traffic density of a road segment by comparing a road's traffic volume to the road's capacity. A V/C value of 1 signifies that the road is at its maximum capacity of traffic volume which leads to serious congestion and typically operates at a LOS F. A V/C value of 0.6 indicates that the road carries very small amounts of traffic and typically qualifies as LOS A. Therefore, a V/C value between 0.6 and 1.0 will result in LOS B to LOS E.

### 2.8 Traffic Crash Data

A record of all vehicular crashes throughout the state is maintained by the Utah Department of Public Safety (UDPS). This data can be accessed on the UDPS's Numetric website.

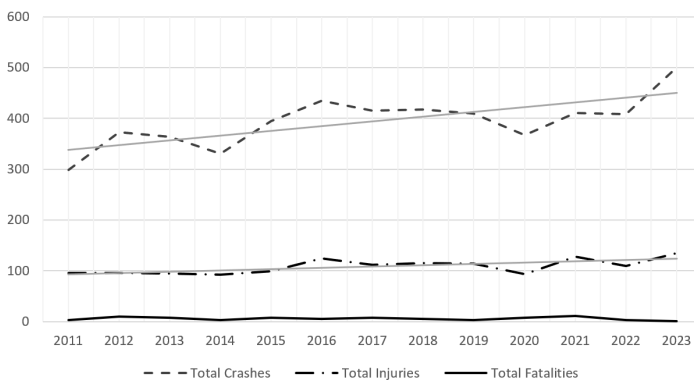


Information from the website has been organized into **Table 6** and Figure 2. These include all reported crashes, injuries, and fatalities for roadways within Millard County from 2011 to 2023. Both **Table 6** and Figure 2 represent the same dataset, just in alternative visual formats.

A heat map of traffic crash locations and intensity is included in Appendix 5, along with a Numetric report on key traffic crash statistics and data.

**Table 6 - Traffic Crash Data<sup>8</sup>**

Year	Traffic Crashes	Total Injuries	Total Fatalities
2011	299	96	3
2012	373	96	10
2013	364	94	7
2014	330	92	3
2015	395	99	7
2016	435	124	5
2017	415	112	8
2018	418	115	5
2019	410	114	3
2020	367	93	7
2021	411	128	11
2022	409	109	3
2023	500	135	1
<b>Average</b>	<b>394</b>	<b>108</b>	<b>6</b>



**Figure 2 - Traffic Crash Data<sup>8</sup>**

## 2.9 Revenue Sources

Funding for the maintenance and construction of the existing transportation facilities comes primarily from revenue sources which include the Millard County general fund, federal funds, and State Class B and C funds. Funding for local transportation projects consists of a combination of federal, state and local revenues. However, this total is not entirely available for transportation improvement projects because annual operating

<sup>8</sup>Utah Department of Public Safety's Highway Safety Office, Utah Crash Summary, Utah Department of Public Safety, Accessed July 14, 2022. <https://udps.numetric.net/utah-crash-summary/>

and maintenance costs must be deducted from the total revenue. In addition, the County is limited in its ability to subsidize the transportation budget from general fund revenues.

### 2.9.1 State Class B and C Program

The distribution of Class B and C Program monies is established by state legislation and is administered by the Utah Department of Transportation. Revenues for the program are derived from state fuel taxes, registration fees, driver license fees, inspection fees, and transportation permits. Seventy-five percent of funds derived from the taxes and fees are kept by the Utah Department of Transportation for construction and maintenance programs. The remaining twenty-five percent is made available to counties and cities.

Class B and C funds are allocated to each County and City using a formula based on population, road mileage, and land area. Class B funds are given to counties, and Class C funds are given to cities and towns. **Table 7** identifies the method used to allocate class B and C road funds.

**Table 7 - Apportionment Method of Class B and C Funds**

Based on	Of
50%	Roadway Mileage
50%	Total Population

Class B and C funds can be used for maintenance and construction of roadways; however, thirty percent must be used for construction or maintenance projects that exceed \$40,000. Class B and C funds may also be used to match federal funds or to pay the principal, interest, premiums, and reserves for issued bonds. **Table 8** identifies funds allocated to Millard County for the fiscal years 2018 to 2023.

**Table 8 - Class B & C Roadway Funds Allocated by Fiscal Year<sup>9</sup>**

Year	1st Payment	2nd Payment	3rd Payment	4th Payment	5th Payment	6th Payment	TOTAL
2018	\$478,143.39	\$630,916.85	\$511,564.75	\$568,427.02	\$644,139.57	\$614,994.63	\$3,448,186.21
2019	\$524,115.84	\$666,357.90	\$684,560.88	\$565,783.06	\$637,963.30	\$826,612.44	\$3,905,393.42
2020	\$491,143.46	\$790,746.15	\$663,544.18	\$581,337.43	\$712,730.58	\$668,602.23	\$3,908,104.03
2021	\$576,588.19	\$703,040.11	\$636,108.33	\$655,488.93	\$734,038.30	\$947,831.91	\$4,253,095.77
2022	\$548,180.24	\$712,666.00	\$734,104.48	\$691,506.68	\$712,806.97	\$982,072.12	\$4,381,336.48
2023	\$542,195.10	\$809,509.74	\$731,968.30	\$639,008.10	\$822,468.22	\$1,086,153.25	\$3,545,149.46
2024	\$662,200.25	\$711,345.76	----	----	----	----	----

### 2.9.2 Federal Funds

Federal funds are available to cities and counties through the federal aid program. These funds are administered by the Utah Department of Transportation. In order to be eligible, a project must be listed on the five-year Statewide Transportation Improvement Program (STIP).

The Surface Transportation Program (STP) provides funding for any road functionally classified as a collector street or higher.

<sup>9</sup>Utah Department of Transportation, "Local Government Program Assistance," Utah Department of Transportation, 2022. <https://udot.utah.gov/connect/business/public-entities/local-government-program-assistance/>

STP funds may be used for a range of projects, including rehabilitation and new construction. Fifty percent of the STP funds are allocated to urban and rural areas of the state based on population. Thirty percent can be used in any area of the State at the discretion of the State Transportation Commission. The remaining twenty percent must be spent on highway safety and enhancement projects. Transportation enhancements include ten categories, some of which are historic preservation, bicycle and pedestrian facilities, and water runoff mitigation.

Money for specific projects in the study area varies depending on what is planned for UDOT's Region Four each year. As a result, federal aid program money is not listed as part of the study area's transportation revenue.

### 2.9.3 Local Funds

Millard County, like most counties, may use general fund revenues in its transportation program. It is also possible to improve the County's transportation facilities through some type of bonding arrangement, either through a redevelopment district or special improvement district. These districts are organized for the purpose of funding a single, specific project that benefits an identifiable group of properties. Bonding arrangements under general obligation are another source of financing for projects that are deemed to benefit the whole entity issuing the bond.

### 2.9.4 Private Sources

Private interests often provide sources of funding for transportation improvements. Developers often dedicate right-of-way as they construct local streets within a subdivision and participate in the construction of collector or arterial streets adjacent to their developments. Due to the impacts of the development on the County, developers can also be considered as potential sources of funding for projects. Among these impacts are the addition of traffic signals and the widening of streets.

### 2.9.5 Active Transportation Facilities

In order to help determine what type of facility is appropriate for a particular plan, the Federal Highway Administration uses three general categories of bicycle user types. Advanced riders are typically using a facility for convenience and speed in navigating to specific destinations and are comfortable operating their bicycles as they would a motor vehicle. Basic riders also desire convenience and speed but lack the confidence and experience to comfortably ride on busy arterials. They tend to favor lower volume roadways with wide shoulders. Children may ride with or without an adult, but also need connections to school, friends, convenience stores, and parks. They tend to ride on low volume residential roads.

In addition to these three types of riders, there are three types of bicycle facilities that can accommodate them. These bicycle facilities are often referred to as Type 1, 2, or 3. A Type 1 bicycle facility is one in which the bicycle rider uses a designated shared use path or trail that is completely separated from the roadway. A shared use path generally serves as a recreational opportunity that is integrated into an area wide system of trails. Common

applications are along rivers, canals, utility rights-of-way and railroad rights-of-way. Type 1 facilities serve all three types of riders, but primarily basic riders and children.

Type 2 bicycle facilities refer to designated bicycle lanes. Bike lanes are delineated by appropriate pavement markings and signs along roads where there is sufficient pavement width to accommodate a safe four- to five-foot-wide lane for bicyclists only. Type 2 facilities typically serve advanced riders. Basic riders and sometimes children access them if they are on low volume roads.

Type 3 bicycle facilities are also referred to as shared roadway bike routes. These are bike routes that may be designated in an overall bicycle facility plan, but do not provide any physical separation between bicycles and motorized vehicles. In rural areas, unsigned Type 3 facilities serve mostly advanced riders and are used to connect major destinations. Signed Type 3 facilities indicate to motorists they should be aware of bicycles in the roadway and should treat them as they would another motorized vehicle. For safety reasons, the County has not identified any routes under this type of facility.

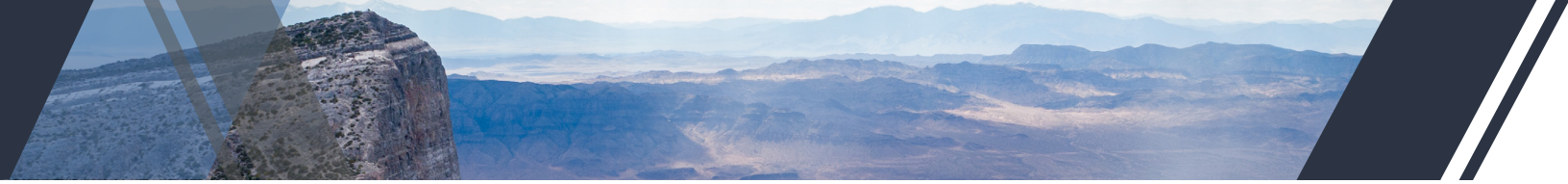
Appendix 3 includes a Countywide plan for pedestrian and bicycle facilities. A layer on the TMP Story Map can also be accessed which showcases active transportation routes within the County. As new corridors are planned and existing corridors upgraded, the bicycle and pedestrian facilities that fall within this plan can be accommodated as part of the improvements to the facilities. In the Countywide plan, the type of bicycle facility is not specified for each part. The type of facility will depend upon the availability of right-of-way to house the facility, amount of funding available to construct the facility, potential users that will access the facility, and roadway characteristics such as speed, shoulder width, availability of additional asphalt width, etc. If high speeds are present with little shoulder separation to adjacent vehicles, a Type 1 facility is recommended. The hierarchy for deciding which type of facility should be constructed for a given roadway should begin with a Type 1 facility being preferred with a Type 3 being used only if a Type 1 and Type 2 are not feasible.

The map found in Appendix 3 outlines the proposed bike path locations within the County.

### 2.10 Rail System

Rural railroad crossings are typically controlled by stop or yield signs and drivers are responsible to look down the track for oncoming trains. Train operators are also required to sound their horns when approaching these types of crossings. This is acceptable in undeveloped rural areas. As development occurs around these crossings, especially residential development, the County should coordinate with UDOT and the appropriate railroad company to install gated crossings to eliminate the noise from train horns.

There are no recommendations for new railways to be constructed in this report.



# 3 FUTURE GROWTH

## 3.1 Land Use and Transportation

Land use and transportation work hand in hand to create a desirable and well-functioning community. Zoning, street classification, and street development will guide how Millard County grows. Transportation planning must align with the goals of the County in order to provide improved access and mobility. A lack of coordination when planning can easily lead to ineffective use of land and ineffective transportation.

## 3.2 Roadway Network and Traffic Forecast

Though some projections anticipate Millard County's population to decrease, it is recommended that the County plan for traffic volumes to increase. Growing populations and traffic volumes in surrounding areas may also increase traffic volumes on Millard County roadways. The future traffic volume growth was assumed to be 1.5% per year (see Subsection 2.2.1 for more information). Appendix 8 shows the existing and forecast ADT, Peak Hour Traffic, and LOS for the study roadways.

## 3.3 Future Millard County Roadway System

Roadway projects are selected based on the analysis provided in the previous sections. The recommended system includes projects that were determined to have geometric issues, safety issues, or need additional capacity. The recommendations are shown in terms of functional classifications.

- Arterial
- Major Collector
- Minor Collector
- Residential Street

Included in Appendix 1 is the roadway classification map. This map shows the proposed future roadway system in the County. The proposed system can also be viewed using the map viewer in the GIS story map. These figures are schematic in nature and do not represent actual road alignments or curves. The primary focus of the plan is on improving arterial, major collector and minor collector roadways. No detail is shown for residential standard and residential private roadways to allow flexibility as development occurs between the collectors. It is the intention of the plan for side road collectors to be spaced no closer than one-quarter mile. The minimum acceptable traffic signal spacing on a minor arterial is typically one-quarter mile but varies based on the UDOT classification of the roadway. At some locations, additional right-of-way may be necessary on roadways above and beyond what is shown on the proposed future roadway system maps to accommodate for future auxiliary lanes, such as acceleration, deceleration, and turn lanes.

Frontage roads (or access roads) are an important element of access control in areas with limited access right of way and plenty of open space. The frontage roads provide access from collector roadways coming off arterials. Providing commercial development frontage along an arterial while limiting direct access is the best approach.

In developing the proposed future roadway maps, discussions and meetings were held with UDOT to obtain approval. The maps have been revised to include UDOT's comments.

### 3.3.1 UDOT's Statewide Transportation Improvement Program

UDOT's Statewide Transportation Improvement Program (STIP) is a five-year plan of highway and transit projects for the State of Utah. The STIP is maintained daily and includes transportation projects on the state, city, and county highway systems as well as projects in the national parks, national forests, and tribal lands. These projects use various federal and state funding programs.

UDOT has programmed funds in the Statewide Transportation Improvement Plan (STIP) for the following roadways in Millard County:

### 3.3.2 Traffic Signal Needs

Table 9 - Apportionment Method of Class B and C Funds

Project Name	Responsible Entity	Estimated Start Year	Estimated Project Value	Project Primary Concept	Project Start Location	Project End Location
I-15 Climbing Lane	UDOT	2020	\$40,021,024	Passing Lane	I-15	I-15
I-70/I-15 Interchange Deck Replacements	UDOT	2022	\$6,700,000	Deck Repair/Replacement	I-70 MP 0.0	I-70 MP 142.5

A traffic signal needs study should be conducted for all new proposed signals for the base year. If warrants are not met for the base year, they should be evaluated for each year in the five-year horizon. Studying traffic signal needs should be conducted by a method pre-approved by the County and address the following:

- Speed Considerations

Vehicle speed is used to estimate safe stopping and cross corner sight distances. In general, the posted speed limit represents the 85th percentile speed. The design speed of the roadway should be used to calculate safe stopping and cross corner sight distances.

- Improvement Analysis

The roadways and intersections within the study area should be analyzed, with and without the proposed development, to identify any projected impacts in regard to LOS and safety.

Where the highway will operate at LOS C or better without the development, the traffic impact of the development on the roadways and intersections within the study area should be mitigated to LOS D for arterial and collector streets and LOS C on all other streets during peak hours of travel. Mitigation to LOS D on other streets may be acceptable with the concurrence of the County.

### 3.3.3 Schedule of Intersection Signalization

There are currently no signalized intersections on County maintained roadways.

Based on the development plan, it is not anticipated that any County intersections will need to be signalized in the next 20 years. Considering that UDOT owns most of the County's high-ADT roadways, most potential signalized intersections will be on state highways. These locations are governed by UDOT, and timing and construction of these improvements will be handled by UDOT.

A two-way stop intersection can be improved in two ways. Four-way stop control systems are used at two-way stop control intersections with equal traffic volumes on all approaches, given the traffic volumes are within the County. Signalization can also be used to improve operations of intersections where two legs have the majority of the traffic, but traffic is low on the opposing two legs.

This plan does not include any specific recommendations in this area.

### 3.3.4 Bridges

By maintaining a state of good repair on County bridges, the safety, mobility, and efficiency of the County's transportation network can be improved. The County currently has a total of 69 bridges on the national bridge inventory system. The reported condition of these

Table 10 - Condition of Millard County Bridges on National Inventory<sup>10</sup>

County	Total Number of Bridges	Bridges in Good Condition	Bridges in Fair Condition	Bridges in Poor Condition
Millard County	69	7	60	2

bridges is shown in **Table 10**.

Any bridges not listed on the national bridge inventory system should be located and recorded. Updating the bridge inventory continually is essential in maintaining functional Millard County bridges. All bridges, including any not currently recorded in the national inventory, should be evaluated regularly, and maintained in proper working condition.

Federal and state funding is crucial to the maintenance of these bridges. Federal grants, such as the BID grant, will allow the County to perform the necessary construction and maintenance of these bridges. UDOT's joint highway committee and the community impact board are also sources of funding for maintenance and replacement of bridges.

<sup>10</sup> Federal Highway Administration, "2023 - Bridge Condition by County" Federal Highway Administration, 2023. <https://www.fhwa.dot.gov/bridge/nbi/2023/County23d1cfm#t>

## 4 TRANSPORTATION GUIDELINES AND POLICIES

Millard County may require a Traffic Impact Study (TIS) for any new development when the following guidelines indicate a TIS is needed. Following are guidelines for how to conduct a TIS, based on suggested guidelines developed by the Institute of Transportation Engineers (ITE). In a TIS, the impacts of a particular type and size of development are examined on the surrounding transportation system. It specifically addresses the generation, distribution, and assignment of traffic to and from the “new development”. Redevelopment of properties is also considered a new development.

### 4.1 TIS Requirements

A complete TIS shall be performed if any of the following situations are proposed:

- All new developments or additions to existing developments which are expected to generate more than 25 new peak hour vehicle trips. (Peak hours are typically from 7 AM to 9 AM and 4 PM to 6 PM on weekdays)
- In some cases, a development that generates less than 25 new peak hour trips should require a TIS if it affects an area of concern such as high crash locations or highly congested roadways.
- All applications for rezoning when there is a significant increase in traffic volume.
- Any change in land use density that results in an increase of more than 15 percent in site traffic, with at least 1000 new peak-hour trips. Any change in the land use that will cause the directional distribution of site traffic to change by more than 20 percent.
- When the original TIS is more than two years old, access decisions are still outstanding, and changes in development have occurred in the site environs.
- When a development directly affects a UDOT roadway in any way, a TIS is required. If this situation is proposed, the TIS required must meet UDOT standards and be completed by a consultant that is approved by UDOT.

The specific analysis requirements and level of detail are set forth in the following sections. Different categories of a TIS are determined by the number of peak hour trips a development will produce. **Table 11** may be helpful in determining which category of TIS would be required by a new development.

**Table 11 - Millard County Requirements for Traffic Impact Studies\***

TIS Category	Land Use Intensity Thresholds (ITE Trip Generation)
Category 1	Single Family: 25 to 100 Dwelling Units Apartment: 50 to 200 Dwelling Units Lodging: 40 to 170 Rooms General Office: 10,000 to 55,000 Sq. Ft. Retail: 2,000 to 15,000 Restaurant: 2,000 to 6,000 Sq. Ft.
Category 2	Single Family: 100 to 525 Dwelling Units Apartment: 200 to 1,000 Dwelling Units Lodging: 170 to 720 Rooms General Office: 55,000 to 350,000 Sq. Ft. Retail: 15,000 to 50,000 Restaurant: 6,000 to 30,000 Sq. Ft.
Category 3	Single Family: > 525 Dwelling Units Apartment: > 1,000 Dwelling Units Lodging: > 720 Rooms General Office: > 350,000 Sq. Ft. Retail: > 50,000 Sq. Ft. Restaurant: > 30,000 Sq. Ft.

\* All commercial and industrial developments require a traffic impact study. Trip generation values based on square footage are to be used as a guideline in determining which category of TIS is required.

#### 4.1.1 Category I

A Category I TIS should be required for all developments which generate twenty-five (25) or more new peak hour trips, but less than one hundred (100) trips, during the morning, afternoon, or Saturday peak hour. Peak hour trips will be determined by the latest edition ITE Trip Generation Manual. In addition to the above threshold requirements, a Category I TIS may also be required by the County for any specific traffic problems or concerns such as:

- Proposed or existing offset intersections
- Situation with a high number of traffic crashes,
- Driveway conflicts with adjacent developments,
- Nearby intersections that have reached their capacity,
- Proposed property rezones when there is a significant potential increase in traffic volumes, and
- When the original TIS is more than two years old, or where the proposed traffic volumes in the original TIS increase by more than twenty percent.

For a Category I TIS, the study horizon should include the opening year of the development, and build-out of the entire development, if applicable. The minimum study area should include site access drives, affected signalized intersections and major unsignalized street intersections.

## 4.1.2 Category II

A Category II TIS should be required for all developments, which generate from one hundred (100) to five hundred (500) peak hour trips during the morning, afternoon, or Saturday peak hour. The study horizon should include the opening year of the development, year of completion for each phase of the development, if applicable, and five years after the development's completion. The minimum study area should include the site access drives and all signalized intersections and major unsignalized street intersections within one-half mile of the development.

## 4.1.3 Category III

A Category III TIS should be required for all developments, which generate above five hundred (500) peak hour trips during the morning, afternoon, or Saturday peak hour. The study horizon shall be for the year of completion for each phase of the development, the year of its completion, five years after the development's completion and ten years after the development's completion. The minimum study area shall include the site access drives and all signalized intersections and major unsignalized street intersections within one-half mile of the development.

## 4.2 Initial Work Activity

A developer, or their agent, should first estimate the number of vehicular trips to be generated by the proposed development to determine if a TIS may be required and if so, to determine the applicable category. The method of estimation must be approved by the County. The County must give concurrence on the number of trips to be generated by the proposed development. The developer may, if desired, request that the County assist in estimating the number of trips for the purpose of determining whether a TIS is required for the proposed development.

The County or designated representative shall make the final decision on requiring a TIS and determining whether the study falls within Category I, II or III.

If a study is determined to be required by the County, the developer should prepare for submittal to the County, for review and approval, a draft table of contents for the TIS. The table of contents will be sufficiently detailed to explain the proposed area of influence for the study, intersections and roadways to be analyzed, and level of detail for gathering of traffic volume information and preparation of level of service analyses. There should also be included in the draft a proposed trip distribution for site traffic. After approval of the draft table of contents and trip distribution by the County, the actual TIS work activities may begin.

The Traffic Impact Study Scope of Work agreement between the developer and his/her traffic engineer should conform to the pre-approved draft table of contents. The findings, conclusions and recommendations contained within the TIS document should be prepared in accordance with appropriate professional Civil Engineering Canons.

## 4.2.1 Qualifications for Preparing TIS Documents

The TIS should be conducted and prepared under the direction of a Professional Engineer (Civil) licensed to practice in the State of Utah. The subject engineer should have special training and experience in traffic engineering and be a member of the Institute of Transportation Engineers (ITE).

The final report shall be sealed, signed, and dated.

## 4.3 Analysis Approach and Methods

The traffic study approach and methods should be guided by the following criteria.

### 4.3.1 Study Area, Horizon, and Time Period

The minimum study area should be determined by project type and size in accordance with the criteria previously outlined. The extent of the study area may be either enlarged or decreased, depending on special conditions as determined by the County. The study horizon years should be determined by project type and size, in accordance with the criteria outlined in Sections 4.1.1 – 4.1.3.

Both the morning and afternoon weekday peak hours should be analyzed, unless the proposed project is expected to generate no trips, or a very low number of trips, during either the morning or evening peak periods. If this is the case, the requirement to analyze one or both of these periods may be waived by the County.

Where the peak traffic hour in the study area occurs during a different time period than the normal morning or afternoon peak travel periods (for example mid-day), or occurs on a weekend, or if the proposed project has unusual peaking characteristics, these additional peak hours should also be analyzed.

### 4.3.2 Seasonal Adjustments

When directed by the County, traffic volumes for the analysis hours should be adjusted for the peak season, in cases where seasonal traffic data is available.

### 4.3.3 Data Collection Requirements

All data should be collected in accordance with the latest edition of the ITE Manual of Traffic Engineering Studies, or as directed by the County.

**Turning Movement Counts:** Manual turning movement counts should be obtained for all existing cross-street intersections to be analyzed during the morning, afternoon, and Saturday peak periods (as applicable). Turning movement counts may be required during other periods as directed by the County. Turning movement counts may be extrapolated from existing turning movement counts, no more than two years old, with the concurrence of the County.

**Daily Traffic Volumes:** The current and projected daily traffic volumes should be presented in the report. If available, daily count data from the local agencies may be extrapolated to a maximum of two years with the concurrence of the County. Where daily count data is not available, mechanical counts will be required at locations agreed upon by the County.



**Roadway and Intersection Geometrics:** Roadway geometric information should be obtained. This includes, but is not limited to, roadway width, number of lanes, turning lanes, vertical grade, location of nearby driveways, and lane configuration at intersections.

**Traffic Control Devices:** The location and type of traffic controls should be identified at all locations to be analyzed.

#### 4.3.4 Trip Generation

The latest edition of ITE's Trip Generation Manual should be used for selecting trip generation rates. Other rates may be used with the approval of the County in cases where Trip Generation does not include trip rates for a specific land use category, or includes only limited data, or where local trip rates have been shown to differ from the ITE rates. Site traffic should be generated for daily, AM, PM and Saturday peak hour periods (as applicable). Adjustments made for "pass-by", "diverted-link" or "mixed-use" traffic volumes shall follow the methodology outlined in the latest edition of the ITE Trip Generation Manual or the ITE Trip Generation Handbook. A "pass-by" traffic volume discount for commercial centers should not exceed twenty-five percent unless approved by the County. A trip generation table should be prepared by phase showing proposed land use, trip rates, and vehicle trips for daily and peak hour periods and appropriate traffic volume adjustments, if applicable.

#### 4.3.5 Trip Distribution and Assignment

Projected trips should be distributed and added to the projected non-site traffic on the roadways and intersection under study. The specific assumptions and data sources used in deriving trip distribution and assignment should be documented in the report and reviewed with the County. Future traffic volumes should be estimated using information from transportation models or applying an annual growth rate to the base-line traffic volumes. The future traffic volumes should be representative of the horizon year for project development. If the annual growth rate method is used, the County must give prior approval to the growth rate used. In addition, any nearby proposed development projects currently under review by the County ("on-line") should be taken into consideration when forecasting future traffic. The increase in traffic from proposed "on-line" projects should be compared to the increase in traffic by applying an annual growth rate. The increase in traffic from proposed "on-line" projects should be compared to the increase in traffic by applying an annual growth rate.

If modeling information is unavailable, the greatest traffic increase from either the "on-line" developments, the application of an annual growth rate or a combination of an annual growth rate and "on-line" developments, should be used to forecast the future traffic volumes.

The site-generated traffic should be assigned to the street network in the study area based on the approved trip distribution percentages. The site traffic should be combined with the forecasted traffic volumes to show the total traffic conditions estimated at development completion. A "figure" should be

prepared showing daily and peak period turning movement volumes for each traffic study intersection. In addition, a "figure" should be prepared showing the base-line volumes with site-generated traffic added to the street network. This "figure" should be prepared showing the base-line volumes with site-generated traffic added to the street network. This "figure" will represent site specific traffic impacts to existing conditions.

#### 4.3.6 Capacity Analysis

Level of service (LOS) shall be computed for signalized and unsignalized intersections in accordance with the latest edition of the Highway Capacity Manual. The intersection LOS should be calculated for each of the following conditions (if applicable):

- Existing peak hour traffic volumes ("figure" required)
- Existing peak hour traffic volumes including site-generated traffic ("figure" required)
- Future traffic volumes not including site traffic ("figure" required)
- Future traffic volumes including site traffic ("figure" required)
- LOS results for each traffic volume scenario ("table" required)

The LOS table should include LOS results for AM, PM and Saturday peak periods, if applicable. The table shall show LOS conditions with corresponding vehicle delays for signalized intersections, and LOS conditions for the critical movements at unsignalized intersections. For signalized intersections, the LOS conditions and average vehicle delay shall be provided for each approach and the intersection as a whole. If the new development is scheduled to be completed in phases, the TIS will, if directed by the County, include an LOS analysis for each separate development phase in addition to the TIS for each horizon year. The incremental increases in site traffic from each phase should be included in the LOS analysis for each preceding year of development completion. A "figure" will be required for each horizon year of phased development.

### 4.4 TIS Report Format

The purpose of this section is to provide information on the general formatting requirements for a TIS. Any deviation from this format must be approved by the County in advance.

#### I. INTRODUCTION AND SUMMARY

1. Purpose of Report and Study Objectives
2. Executive Summary
  - Site Location and Study Area
  - Development Description
  - Principal Findings
  - Conclusions
  - Recommendations

#### II. PROPOSED DEVELOPMENT

1. Off-Site Development
2. Description of On-Site Development
  - Land Use and Intensity
  - Location
  - Site Plan
  - Zoning
  - Development Phasing and Timing

### III. STUDY AREA CONDITIONS

1. Study Area
  - Area of Significant Traffic Impact
  - Influence Area
2. Land Use
  - Existing Land Use and Zoning
  - Anticipated Future Development
3. Site Accessibility
  - Existing and Future Area Roadway System
  - Traffic Volumes and Conditions
  - Access Geometrics
  - Other as applicable

### IV. ANALYSIS OF EXISTING CONDITIONS

1. Physical Characteristics
  - Roadway Characteristics
  - Traffic Control Devices
  - Pedestrian/Bicycle Facilities
2. Traffic Volumes
  - Morning, Afternoon and Saturday Peak Hour Periods (as applicable)
3. Level of Service
  - Morning, Afternoon and Saturday Peak Hour Periods (as applicable)
4. Safety

### V. PROJECTED TRAFFIC

1. Site Traffic Forecasts (each horizon year)
  - Trip Generation
  - Mode Split
  - Pass-by Traffic (if applicable)
  - Trip Distribution
  - Trip Assignment
2. Non-Site Traffic Forecasting (each horizon year)
  - Projections of Non-site (Background) Traffic (methodology for the projections shall receive prior approval of County)

3. Total Traffic (each horizon year)

### VI. TRAFFIC AND IMPROVEMENT ANALYSIS

1. Site Access
2. Capacity and Level of Service Analysis
  - Without Project (for each horizon year including any programmed improvements)
  - With Project (for each horizon year, including any programmed improvements)
3. Roadway Improvements
  - Improvements Programmed to Accommodate Non-site (Background) Traffic
  - Additional Alternative Improvements to Accommodate Site Traffic
4. Traffic Safety
  - Sight Distance
  - Acceleration/Deceleration Lanes, Left-Turn Lanes
  - Adequacy of Location and Design of Driveway Access
5. Pedestrian Considerations
6. Speed Considerations
7. Traffic Control Needs
8. Traffic Signal Needs (base plus each year, in five-year horizon)
9. Site Circulation and Parking

### VII. FINDINGS

1. Site Accessibility
2. Traffic Impacts
3. Need for Improvements
4. Compliance with Applicable Local Codes

### VIII. RECOMMENDATIONS/CONCLUSIONS

1. Site Access/Circulation Plan
2. Roadway Improvements
  - On-Site
  - Off-Site
  - Phasing (as applicable)
3. Transportation System Management Actions (as applicable)
4. Other

### IX. APPENDICES

1. Existing Traffic Volume Summary
2. Trip Generation/Trip Distribution Analysis
3. Capacity Analyses Worksheets



#### 4. Traffic Signal Needs Studies

### X. FIGURES AND TABLES

1. The following items shall be documented in the text or Appendices

- Site Location
- Site Plan
- Existing Transportation System
- Existing Peak Hour Turning Volumes
- Estimated Site Traffic Generation
- Directional Distribution of Site Traffic
- Site Traffic
- Non-Site Traffic
- Total Future Traffic
- Projected Levels of Service
- Recommended Improvements

(For Category I, many of the items may be documented within the text. For other categories, the items shall be included in figures and/or tables which are legible.)

### XI. DESIGN STANDARD REFERENCE

1. Design in accordance with current Millard County engineering standards.
2. Design in accordance with AASHTO standards.
3. Conduct capacity analysis in accordance with the latest edition of the Highway Capacity Manual.

#### 4.5 Roadway Standards

All streets shall be designed to conform to the engineering standards and technical design requirements adopted by Millard County. These standards can be supplemented by this master plan and include AASHTO (American Association of State Highways Transportation Officials), A Policy on Geometric Design of Highways and Streets, and the MUTCD (Manual on Uniform Traffic Control Devices). In cases of conflict, a determination shall be made by the County, whose determinations shall be final.

Millard County has adopted these design standards for roadways to ensure that the facilities provide the necessary safety and capacity elements. The requirements for the street typical cross-section configurations are shown in Appendix 6. These requirements are based on traffic capacity design speed, projected traffic, system continuity and overall safety. All new developments shall use typical sections in accordance with those found in the appendix. Right-of-way width shall be determined by County personnel based on County standards. All depths of materials shown on typical sections are subject to change based on engineered pavement design. Pavement designs within the County shall be submitted to the County Road Department for review by County staff. Appendix 2 includes a map showing the surface type for all County roads. Listed in Appendix 6 are the typical sections that the County uses for its collector roadways

Developers shall retain ownership of local roads that are not subject to County standards, and it is imperative to note the County is not responsible for the maintenance of private roads. All Arterial highways are under UDOT jurisdiction.

All streets shall be designed to conform with the current set of engineering standards adopted by Millard County. Using the GIS Story Map web service, the standards associated with this transportation master plan can be accessed. Story maps use Geographic Information System (GIS) tools to combine geospatial data with photos, video, and text to visualize a theme or sequential events. Story maps are designed for nontechnical audiences with access to the internet; users do not need experience with GIS software to read or use story maps. This story map can be accessed through the County GIS website.

#### 4.6 Safe Transportation System

Maintaining a safe transportation system is Millard Counties top priorities. In order to meet applicable safety standards, this should be a top priority for the County. The following recommendations can help achieve this goal.

- Require all major developments to provide adequate access for emergency vehicles. This includes but is not limited to fire, paramedic, law enforcement, and other entities.
- Provide safe pedestrian street crossings, particularly near schools and recreation areas.
- Encourage development of school routing and recreation plans that minimize vehicle/pedestrian conflicts.
- Analyze traffic engineering data to determine speed limits. Speed limits should be enforced in residential and commercial areas, especially near schools.
- Implement traffic engineering solutions such as striping, raised medians, traffic islands, traffic signage, and reducing roadside obstructions to guide vehicles on streets.
- Require all roadway features to meet minimum design standards established by the American Association of State Highway and Transportation Officials (AASHTO). All signs, pavement markings and traffic signals must meet standards established by the Manual of Uniform Traffic Control Devices (MUTCD). Exceptions may be granted by the County on a case-by-case basis for designs that demonstrate innovative superiority over existing standards.
- Maintain optimal conditions for walking, wheelchairs, and strollers by:
  - Repairing cracks and bumps,
  - Minimizing slopes,
  - Maintaining visibility at corners,
  - Avoiding abruptly ending walkways,

- Reducing speed and traffic,
- Keeping walkways clear of poles and other objects,
- Avoiding poor drainage and standing water on sidewalks,
- Providing curb cuts and ramps that comply with the Americans with Disabilities Act (ADA) where applicable, and
- Providing adequate emergency access and/or turnarounds on all dead-end streets or cul-de-sacs.

#### 4.6.1 Roadway Network Design

New roadway networks shall be designed in accordance with the general planning concepts, guidelines, and objectives provided in this section. The "Quality of Life" for residents should be a primary concern when designing a residential roadway network with safety as the overriding factor in design. An emphasis on proper street hierarchy should be adhered to, namely, local streets should access collectors; collectors should access arterials; etc. An emphasis on access management should provide careful control of the location, design, and operation of all driveways, median openings, and street connections to a roadway. For more information on access management, refer to Section 6.

Residential streets should often be designed in a curvilinear method to reduce or eliminate long straight stretches of residential roadways, which encourage speeding and cut-through traffic. Substantial increases in average daily traffic due to development on adjacent property on established streets not originally designed to accommodate such increases should be avoided. Drainage methods should concentrate on meeting the drainage needs while not impeding the movement of traffic. Roads should be designed to lie within existing topographic features without causing unnecessary cuts and fills.

A reduction in the use of cul-de-sacs should be emphasized to provide greater traffic circulation. Cul-de-sacs should only be allowed where topography and/or natural barriers prohibit the design of through streets. Circulation is of the utmost importance; long blocks and excessive dead-end streets should be avoided. Stopping sight distance must be considered at all intersections and curves to ensure the safety of the public, in accordance with AASHTO standards. Pedestrian and bicycle traffic should be considered in the planning and design of all developed streets.

Roadways should be planned to accommodate the traffic demand associated with adjoining developments and commercial areas. The capacity of these roadways can be established by following LOS criteria that has been established by various governmental agencies across the country.

The County should keep a record of road treatments and when they have been applied. It is recommended the County continue to build their road surface treatment system and prioritize consistent road preservation treatments.

#### 4.6.2 Improvement Requirements

All improvements, including but not limited to the following, shall be constructed in accordance with standard specifications and drawings unless otherwise approved:

- Required curb, gutter and sidewalk shall be constructed.
- Driveways shall be constructed in approved locations and in accordance with County standards.
- All streets, public or private, shall be surfaced to grade and shall be the required minimum width and thickness according to current asphalt and concrete pavement standards.
- Cross gutters may be used for drainage purposes, as approved by the County Road Superintendent.
- When new construction occurs, handicap ramps shall be constructed at all street intersections, unless otherwise approved, in accordance with the standard drawings. In addition, when a project occurs where existing improvements are in place, handicap ramps shall be upgraded to meet current standards.
- Raised medians on public roadways shall be approved by the County. Design and construction shall be in accordance with applicable standards.
- Developments shall construct the minimum number of accesses needed to adequately address the needs of the development and only at approved locations.
- Adequate drainage facilities shall be installed to properly control runoff from the roadway. Surface and subsurface drainage facilities shall be designed in accordance with the approved drainage study. Drainage studies for developments shall be submitted to the County for review.

The above required improvements are not all-inclusive. Other improvements needed to complete the development in accordance with current engineering and planning standard practice may be required by the County.

# 5 TRANSPORTATION IMPROVEMENT PLANS

## 5.1 Short-Range Transportation Improvement Plan

A short-range transportation plan encompasses improvements to be completed within the next 10 years. County personnel will work with UDOT and other relevant agencies to ensure compatibility between transportation networks. The Short-Range Transportation Improvement Plan (TIP) is to be updated periodically to reflect the County's transportation goals. To utilize the short-term TIP effectively, the County should:

- Consider developing an impact fees system for roadways to assess necessary roadway improvements on future development.
- Update master plan every 5 years.
- Continue a routine chip seal maintenance program for old, asphalted roads to ensure they remain in good working condition.
- Construct sections of the pedestrian and bicycle plan and continue to plan for future active transportation facilities.
- Work with each of the cities in the County to monitor their transportation plans and update this plan as needed in accordance with the attached maps.
- Construct as many suggested roadway improvements as possible.

Projected costs and completion dates are provided for some projects. Appendix 4 contains a complete table of cost estimates analyzed in association with this TMP. The following projects are included in the short-range TIP with cost estimates:

Project Name	Estimated 2023 Cost	Estimated Date	Estimated Future Cost	Project Type
4000 W (4500 N to 7500 N)	\$3,645,000	2035	\$7,275,000	Reconstruction
4000 W (7500 N to Brush Wellman Rd)	\$3,027,000	2037	\$6,788,000	Reconstruction
4000 W (SR-50 to 1500 N)	\$3,064,000	2039	\$7,688,000	Reconstruction
1000 S & Hwy 50 Intersection Realignment	\$326,000	2040	\$813,000	Realignment
Northeast Holden Frontage Road (Section 1)	\$1,610,000	2041	\$4,500,000	Mill & Fill
Northeast Holden Frontage Road (Section 2)	\$1,610,000	2043	\$5,036,000	Mill & Fill
Northeast Holden Frontage Road (Section 3)	\$1,671,000	2045	\$5,851,000	Mill & Fill
West Meadow Frontage Road (Section 1)	\$1,946,000	2047	\$7,626,000	Mill & Fill
West Meadow Frontage Road (Section 2)	\$1,946,000	2049	\$8,537,000	Mill & Fill
East Meadow Frontage Road	\$2,610,000	2051	\$12,821,000	Mill & Fill

Project Name	Estimated 2023 Cost	Estimated Date	Estimated Future Cost	Project Type
Jones Road	\$2,120,000	2027	\$2,661,000	Road Widening and Overlay
Cedar Mountain Road (Fillmore to 3300 N)	\$1,906,000	2027	\$2,441,000	3" HMA Overlay
Cedar Mountain Road (3300 N to 5400 N)	\$1,839,000	2029	\$2,634,000	3" HMA Overlay
Cedar Mountain Road (5400 N to Hwy 50)	\$2,301,000	2031	\$3,650,000	3" HMA Overlay and New Construction
Hwy 6 Turn Lanes at Eagle Drive	\$966,000	2032	\$1,604,000	Road Widening
4000 W (1500 N to 4500 N)	\$3,035,000	2033	\$5,437,000	Reconstruction

## 5.2 Long-Range Transportation Improvement Plan

A Long-Range TIP consists of transportation projects that are to be completed within 10 to 30 years. Projects included in the Long-Range TIP are as follows:

## 6 ACCESS MANAGEMENT

Access management for roadways and its importance will be defined and described in this section. Individual developments along the major travel corridors typically have their own access driveways. Numerous access points along the corridor create conflicts between turning and through traffic which causes delays and crashes. An effective access management program will achieve the following objectives:

- Limit the number of conflict points at driveway locations,
- Separate conflict areas,
- Reduce the interference of through traffic,
- Provide sufficient spacing for at-grade, signalized intersections, and
- Provide adequate onsite circulation and storage.

Although access management is generally used on roads with greater volumes and larger areas, it is also applicable to local residential roads.

### 6.1 Definition

Access management involves providing and controlling access to land development while preserving the flow of traffic on the surrounding road system's safety, capacity, and speed.<sup>11</sup>

### 6.2 Access Management Techniques

Access management shall be used on all roadways within Millard County. Roadway access management strategies extend the useful life of roads at little or no cost to taxpayers. For example, access management can improve performance on a roadway that is experiencing high traffic growth at a lower cost than widening the roadway and increasing lanes. Access management should be used when constructing new roadways and as roadways are improved.

Access management can be accomplished using a variety of techniques such as signal spacing, street spacing, access spacing, and interchange to crossroad access spacing. Depending on the type of roadway, the spacing between accesses will vary. The Utah Department of Transportation has developed an access management program. More information about this program can be found on the UDOT website and from the Access Management Program Coordinator.

#### 6.2.1 Access Management

Safety, capacity, and speed determine how land development is accessed by a roadway. Managing access is achieved by controlling the location, design, and operation of driveways, median openings, and street connections. Auxiliary lanes (turn lanes or bypass lanes) are also used to divert traffic out of the through traffic stream to improve the traffic flow and safety.

Access control varies based upon the effect each road will have on local and regional mobility. No transportation system can provide complete accessibility and mobility. Figure 3 shows

the relationship between mobility, access, and the functional classification of streets. For example, the strictest access control is applied to roadways that serve through traffic or regional trips. Local streets, residential areas, and shorter roads require the least amount of access control. In many cases, crashes and congestion are the result of streets trying to serve both mobility and access at the same time.

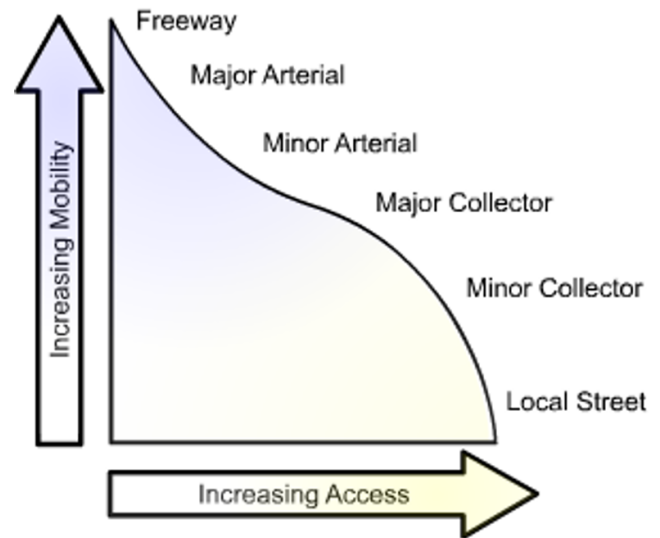


Figure 3 - Conceptual Roadway Functional Hierarchy<sup>12</sup>

#### 6.2.2 Benefits of Access Management

The American Association of State Highway and Transportation Officials (AASHTO) states "the number of crashes is disproportionately higher at driveways than at other intersections thus their design and location merits special consideration." Fewer direct accesses, greater separation of driveways, and improved driveway design are the basic elements of access management. With good access management, the following are some of the recognizable benefits:

- Improving overall roadway safety
- Reducing total number of vehicle trips
- Decreasing interruptions in traffic flow
- Minimizing traffic delays and congestion
- Maintaining roadway capacity
- Extending the useful life of roads
- Avoiding costly highway projects
- Improving air quality
- Encouraging compact development patterns
- Improving access to adjacent land uses
- Enhancing pedestrian and bicycle facilities

#### 6.2.3 General Access Management Principles

The following access management guidelines and policies shall be adhered to within Millard County.

<sup>11</sup>American Association of State Highway and Transportation Officials, A Policy on Geometric Design of Highways and Streets 7th Edition, 2018.

<sup>12</sup>Federal Highway Administration, "What is Access Management," United States Department of Transportation, June 3, 2021, [https://ops.fhwa.dot.gov/access\\_mgmt/what\\_is\\_accessmgmt.htm](https://ops.fhwa.dot.gov/access_mgmt/what_is_accessmgmt.htm)



- Intersections and driveways should be separated to reduce conflicts a “time-space” perspective should guide (a) the location, timing, and coordination of traffic signals; (b) the placement of access; and (c) the design and operation of intersections. Optimum progressive travel speeds along arterial roadways should be determined and maintained.
- Signal cycles should be as short as possible but consistent with capacity, pedestrian clearance, and coordination requirements. A cycle length range of 60 to 120 seconds is appropriate. Cycle lengths should not exceed 150 seconds.
- Unsignalized accesses should be located so as not to interfere with queues or maneuvering areas of signalized intersections. Unsignalized accesses should also be positioned to allow vehicles from the access to enter the flow of traffic safely.
- Interference between through traffic and site traffic should be addressed by incorporating additional traffic lanes to accommodate turning vehicles and through vehicles. Adequate on-site storage and driveway dimensions should be designed to accommodate the traffic demand entering and exiting the site. Fewer, properly placed, and adequately designed driveways are preferable to a larger number of inadequately designed driveways. **In all cases, the integrity of mainline traffic operations must not be compromised.**

### 6.2.4 Number of Access Points

Controlling the number of access points or driveways on a roadway reduces potential conflicts between vehicles, pedestrians, and bicycles. Each parcel should typically be allowed one access point, and shared accesses are preferred where possible. The County should consider adopting policy to allow for no more than one access per residence unless otherwise approved by County personnel.

### 6.2.5 Signalized Intersection and Street Spacing Requirements

Uniform or near uniform spacing of signals is essential for efficient traffic flow. As a minimum, signals should be spaced no closer than one-quarter mile (1,320 feet).

It is recommended that intersection spacing follows standards outlined by the Utah Department of Transportation. **Table 12** shows the spacing requirements based on the functional class of the roadway facility for street spacing and signalized intersection spacing.

**Table 12 - State Highway Access Management Spacing Standards<sup>13</sup>**

Functional Class	Minimum Signal Spacing (feet)	Minimum Street Spacing (feet)
Interstate	N/A	N/A
Arterial Rural	5280	1000
Arterial Urban	2640	N/A
Major Collector Rural	2640	660
Major Collector Urban	2640	660
Minor Collector Rural	1320	300
Minor Collector Urban	1320	300
Other	1320	300
One-way Frontage Road	1320	660

### 6.2.6 Right-In/Right-Out Accesses

Right-In/Right-Out accesses eliminate left turns making them particularly effective on high traffic volume roads. Restricted access movement can provide additional access while promoting economic development, reducing crashes, and improving traffic flow with minimal impact to the facility. This type of access should be spaced in a manner that minimizes traffic conflicts and provides adequate distance for deceleration and acceleration of traffic in and out of the access.

### 6.2.7 Medians

Medians are used to control and manage left turns and crossing movements as well as separating traffic moving in opposite directions. Restricting left turning movements reduces the conflicts between through and turning traffic, resulting in improved safety. Studies have shown the installation of a non-traversable median will reduce crashes by 30% over that of a two way left turn lane (TWLTL).

The need for a median can be identified through an engineering review (a traffic study assessing the impact of a proposed project) and should be considered on any roadway that has a speed limit greater than 40 mph. Medians can improve pedestrian safety by providing a refuge area for the pedestrian.

Medians can also add to the overall aesthetic of a roadway corridor or a development by incorporating landscaping or other items of visual interest. However, care should be taken to maintain sight distance around the intersection/access locations. Ground cover plantings should be planted within 350 feet of an intersection/access opening. It is important to select landscape material that will not intrude onto the roadway and to locate it in such a way that it will not create a safety issue. Trees should be selected that will not be larger than 4 inches in diameter when mature.

Two way left turn lanes should only be used to retrofit areas of existing development and should be limited to roadways with less than 18,000 ADT. In areas with an ADT greater than 18,000, consideration should be given to a raised median with appropriately spaced median openings. **Table 13** shows typical guidelines for spacing of unsignalized restricted median

<sup>13</sup>UDOT, Transportation Preconstruction Rules Rg30, Rg30-6 Access Management

openings. A 14-foot median is desirable to provide for an adequate left turn lane at intersections.

Table 13 - Guidelines for Spacing of Unsignalized Restricted Median Openings

Functional Classification	Spacing of Median Openings (ft)*		
	Urban	Suburban	Rural
Collector	330	500	660
Arterial	500	660	800

\*Values are for estimating, exact values shall be based on an engineering study.  
 \*Values based on UDOT State Highway Access Management Standards; Table 7.4-1

### 6.2.8 Specifications for Driveway Accesses

Design specifications from the County's ordinance regarding accesses are as follows:<sup>14</sup>

The County building inspector shall not issue an access permit except in compliance with the following standards:

- A. *Right Of Way: The portion of the road right of way lying between the road centerline and road boundary line adjacent to the applicant's property shall be dedicated to the County along its entire interface with the applicant's property, and the width of said dedication shall be the standard right of way width for the local, collector, or arterial class of road adopted by the County.*
- B. *Driveways: No more than two (2) driveways, each measuring thirty feet (30') or less in width, shall be permitted to give access for any residential structure. No more than two (2) driveways, each measuring fifty feet (50') or less in width, shall be permitted for any other purpose of access. The County engineer may permit acceleration and deceleration lanes to join the County road when necessary to provide safe access.*
- C. *Fences And Landscaping: Fences or sight obstructing landscaping shall not be located within the road right of way.*
- D. *Curb Cuts: No curb shall be wider than thirty feet (30') when serving a residential structure, nor fifty feet (50') when serving any other purpose for access. The County engineer may permit wider cuts when safety reasons require them for acceleration or deceleration lanes.*
- E. *Drainage: Drainage facilities shall be provided in the form of culverts, bridges, curbs, etc., at each driveway and designed according to the standards for public streets adopted by the County.*
- F. *Ditches: Driveways shall access County roads across ditches in pipes or culverts of standard design. No new open ditch shall be allowed within dedicated rights of way. Ditch companies*

*must give their approval for all pipes placed in their ditches.*

- G. *Location Of Access Points: The driveways or other points giving access to a County road shall be no closer than six hundred feet (600') to one another.*
- H. *Angle: The driveway gaining access to a County road must meet the road at an angle of eighty (80) to ninety degrees (90').*
- I. *Grade: The driveway gaining access to a County road shall have a grade of not more than five percent (5%) for the ten feet (10') closest to the road right of way line.*
- J. *Engineering Standards: The County engineer shall maintain design standards for culverts, driveways, curbs, curb cuts, drainage facilities, etc., according to generally accepted engineering practices. (1988 Code § 9.08.060)*

Access spacing shall be measured from center of access to center of access.

Collector and arterial roadways will have limited access. Where multiple parcels are consolidated, accesses shall also be consolidated according to County design and spacing standards. Temporary access may be granted to undeveloped property prior to completion of a final development plan if access is needed for construction or preliminary site access. Temporary accesses are subject to removal, relocation, or redesign after final development plan approval.

### 6.2.9 Offset Distance

Offset distance is the distance from the center of an access to the center of the next access on the opposite side of the road. On undivided roadways, access on opposite sides of the road should be aligned. Where alignment is not possible, driveways should be offset based on the values set in **Table 14** below.

Table 14 - Minimum Offset Distance Between Driveways on Opposite Sides of Road

Functional Class	Minimum Offset* (feet)
Private	-
Residential Local	-
Minor Collector	150
Major Collector	200
Arterial	600 for speed of 45 mph or greater, 300 for all other speeds
Commercial Local	200
Industrial Local	220

\*Distance in table is measured from center to center of driveway

<sup>14</sup>County Code of Millard County Utah, Title 7 Public Roads and Highways, Chapter 2 Access to Public Roads, Section 7-2-6 Access Standards, 2005.

### 6.2.10 Corner Spacing

Providing adequate corner spacing improves traffic flow and roadway safety by ensuring the traffic turning into the driveway does not interfere with the function of the intersection. Access to corner lots should be from the lesser-classified road at the greatest distance possible from the intersection and should not be less than the distances shown in **Table 15**. This distance is measured from the PC (point of curve) of the corner curve. A 25-foot radius is considered the minimum street radius in Millard County.

Table 15 - Access Distance from Corner According to Facility Type

Facility Type	Upstream Distance on Major Roadway (feet)	Downstream Distance on Major Roadway (feet)
Residential Private	50**	50**
Residential Local	50**	50**
Minor Collector	100	75
Major Collector	175	150
Arterial*	200	185
Commercial Local	100	-
Industrial Local	100	-

\*All access points shall be approved by the County. Distances shown may be adjusted by the County. Exceptions can only be approved by the County upon submittal of proper traffic justification.

\*\* Distances shown are preferred.

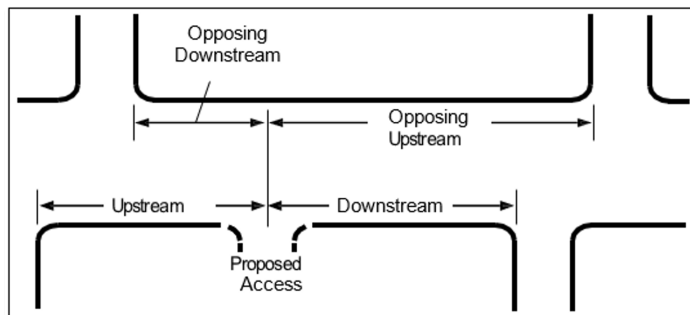


Figure 4 - Major Road Access Spacing

### 6.2.11 Turning Radius

The turning radius of a driveway or access road affects both the flow and safety of through traffic as well as vehicles entering and exiting the roadway. The size of the turning radius affects the speed at which vehicles can exit the flow of traffic and enter a driveway. The larger the turning radius, the greater the speed at which a vehicle can turn into a site.

The speed of the roadway, the anticipated type and volume of the traffic, pedestrian safety, and the type of use proposed for the site should be considered when evaluating the turning radius. **Table 16** shows the turning radii for accesses based on vehicle type. Verification on a site-by-site basis may be needed to ensure the design vehicle can traverse the turn radius.

Table 16 - Turning Radius at Access Locations

Access Type	Turning Radius
Residential	10' Minimum
Commercial	30' Minimum
Street Approaches	30'-50'

\* All radii are minimums and may be increased based on engineer analysis.

### 6.2.12 Throat Length

Throat length is the length of the driveway controlled internally from turning traffic, measured from the intersection with the road. Driveways should be designed with adequate throat length to accommodate queuing of the maximum number of vehicles as defined by the peak period of operation in the traffic study. This will prevent potential conflicts between traffic entering the site and internal traffic flow. **Table 17** shows the minimum driveway throat length at signalized access.

Table 17 - Minimum Driveway Throat Length at Signalized Accesses

Number of Egress Lanes	Minimum Throat Length
2	75 Feet

### 6.2.13 Shared Access

Access points can be shared between adjacent parcels to minimize the potential for conflict between turning and through traffic. Interconnections between sites can eliminate the need for additional curb cuts, thereby preserving the capacity of the roadway. This is particularly important for commercial/industrial sites and should be used to encourage the development of interconnectivity between parcels. Future roadway rights-of-way should also be preserved to promote interconnected access to vacant parcels. See County standard details for all needed information for shared accesses.

### 6.2.14 Alignment of Access Points

Accesses represent points of conflict for vehicles, bicycles, and pedestrians. To minimize the potential conflicts and improve safety, intersections and driveways shall be aligned opposite each other wherever possible and intersect roadways at a 90-degree angle.

### 6.2.15 Sight Distance

Sight distance is the length of the road visible to the driver. A minimum safe sight distance should be required for access points based on the roadway classification. It is essential to provide sufficient intersection sight distance for vehicles using a driveway to see oncoming traffic and safely make their movement. Intersection sight distance varies depending on design speed of the roadway to be entered and assumes a passenger car can turn right or left into a two-lane highway and attain 85 percent of the design speed without being overtaken by an approaching vehicle that reduces speed to 85 percent of the design speed. **Table 18** gives intersection sight distance requirements for passenger cars.

Table 18 - Intersection/Driveway Sight Distance

Posted Speed Limit	Sight Distance Required* (feet)					
	Left Turn			Through and Right Turn		
MPH	2 Lanes	3 Lanes	5 Lanes	2 Lanes	3 Lanes	5 Lanes
30	335	355	375	290	310	335
35	390	415	440	335	365	390
40	445	475	500	385	415	445
45	500	530	565	430	465	500
50	555	590	625	480	515	555
55	610	650	690	530	570	610
60	665	710	750	575	620	665
65	720	765	815	625	670	720

\* Driver eye is 15 feet measured from the traveled way

### 6.2.16 Turning Lanes

Turning lanes remove the turning traffic from the through travel lanes. Left turning lanes are used to separate the left turning traffic from the through traffic. Right turn lanes reduce traffic delays caused by the slowing of turning vehicles. These lanes are generally used in high traffic areas on arterial and collector roadways. A traffic impact study will determine the need for turning lanes or tapers. **Table 19** shows the minimum guidelines for storage length of turning lanes based on speed.

Table 19 - Turning Lanes Storage Length (100 feet minimum)

Intersection	Length
Unsignalized Intersection	Two times the number of cars likely to arrive in a 2-minute period during peak hour*
Signalized Intersection	10% of the design year peak hour volume expressed in feet*

\*Assumes 25 feet per vehicle

\*2004 AASHTO Geometric Design of Highways and Streets

Turning lanes shall be a minimum of 12 feet in width. Any exception will require approval from the County Engineer. Right turn lanes require an additional 12 feet of pavement to accommodate the lane.

The provision for left turn lanes is important from both capacity and safety perspective, where left turns would otherwise share the use of a through lane. Shared use of a through lane will dramatically reduce capacity, especially when opposing traffic is heavy. Left turn lanes shall be provided at signalized intersections.

Right turn lanes remove the speed differences in the main travel lanes. This reduces the number and severity of rear-end collisions. Right turn lanes also increase the capacity of signalized intersections and may allow more efficient traffic signal phasing. **Table 20** provides typical warrants, based on posted speed and traffic volumes for when auxiliary lanes are to be installed.

A separate turning lane consists of a taper plus a full width auxiliary lane. Taper length will vary based on speed. A length

of 90 feet for speeds below 45 mph, 140 feet for speeds of 45 and 50 mph, and 180 feet for speeds over 50 mph. If a two-turn lane is to be provided, it is recommended a 10:1 taper be used to develop the dual lanes. The taper will allow for additional storage during short duration surges in traffic volumes.

Table 20 - Guidelines for Left Turn and Right Turn Lanes on Two Lane Highways

Minimum levels for installation auxiliary lanes on rural two-lane roads (farm access excluded)

Speed	Left Turn	Right Turn	Right Turn Acceleration	Left Turn Acceleration
40 mph and less	25 vph	50 vph	-	-
45 mph and greater	10 vph	25 vph	50 vph	*

\* Optional for 50 mph and less; for 55 mph as required by the County Engineer vph = vehicles per hour in any one-hour period in passenger car equivalents

### 6.2.17 Pedestrian and Bicycle Access

All new development and redevelopment of existing sites should address pedestrian and bicycle access to and within the site.

### 6.2.18 Roundabouts

Several communities in the United States are beginning to embrace the concept of "roundabouts". A roundabout is an intersection control measure used extensively in Europe for many years. A roundabout is composed of a circular, raised, center island with deflecting islands on the intersecting streets to direct traffic movement around the circle. Traffic circulates in a counterclockwise direction making right turns onto the intersecting streets. There are no traffic signals; rather, entering traffic yields to vehicles already in the roundabout.

Roundabouts can reduce delays because the stop signal phase (when vehicles entering the intersection are unable to move) is eliminated. Roundabouts can also improve safety because the number of potential impact points and the number of conflict points is less than a four-way intersection.

Development of a roundabout should occur as a result of an intersection study by a qualified Traffic Engineer and when the minimum capacity and design criteria can be met. The Federal Highway Administration (FHWA) has prepared a design guide for modern roundabouts in the United States. A single-lane roundabout can accommodate up to 1,800 vehicles per hour.



# 7 TRANSPORTATION CORRIDOR PRESERVATION

## 7.1 Introduction

Several recent research efforts have addressed the issue of corridor preservation. The 1990 Report of the American Association of State Highway and Transportation Officials (AASHTO) Task Force on Corridor Preservation provided an identification and evaluation of various corridor preservation techniques. Subsequent efforts of the Federal Highway Administration (FHWA) and Transportation Research Board (TRB) have been added to the literature. Drawing from these documents and a brief review of relevant Utah law, this chapter provides a discussion of potential techniques that may have applicability to Millard County. A bibliography of the relevant publications is included.

### 7.1.1 Definitions

For purposes of this discussion, a “corridor” is defined as “the existing or planned path of a transportation facility that already exists or may be built, expanded and/or upgraded and improved in the future,” and a “transportation facility” is defined as “a county, city or state highway, to which, and along which, the public has a perpetual right of access and use for purposes of motorized travel subject to prevailing traffic laws and regulations.” The AASHTO report defines corridor preservation as “a concept utilizing the coordinated application of various measures to obtain control of or otherwise protect the right-of-way for a planned transportation facility”. The AASHTO report further defines the objectives of corridor preservation as follows:

- Prevent inconsistent development.
- Minimize or avoid environmental, social, and economic impacts.
- Reduce displacement.
- Prevent the foreclosure of desirable location options.
- Allow for the orderly assessment of impacts.
- Permit orderly project development.
- Reduce costs.

## 7.2 Corridor Preservation Techniques

Techniques for corridor preservation fall into the following four major categories:

For existing corridors:

1. Documentation and recordation to prove record fee ownership or vested right-of-way interest as a public road right-of-way.

For future corridors:

2. Acquisition,
3. Exercise of planning and zoning authority, and
4. Voluntary agreements and governmental inducements

The various issues associated with each of the foregoing

techniques are unique. Therefore, one preservation technique cannot be recommended as the best for all situations. The purpose of this chapter is to provide a “toolbox” of techniques available. A brief summary of each is provided below.

### 7.2.1 Documentation and Recordation

The objective is to gather and preserve enough evidence to clearly and convincingly show that the County has either fee ownership of, or a vested right-of-way interest through, the existing corridor. Evidence of ownership should be recorded in the County Recorder’s office. Evidence of a vested right-of-way interest through continuous public use or public construction, such as affidavits, witness statements, depositions, and other documentation including maps and photographs, do not necessarily have to be recorded in the County Recorder’s Office, as such is often not feasible or practical. Such information should be kept and preserved by the County Road Department in case the right-of-way interest is ever challenged. Efforts should be pursued in right-of-way cases to obtain from the servient owner(s) any necessary deeds quitclaiming the right-of-way interest in favor of the County as an added measure of security, and such quitclaim deeds should be recorded in the County Recorder’s office. Existing corridors should be professionally surveyed when feasible.

Moreover, any subdivision development that may occur adjacent to or connecting with an existing corridor, should require obtaining a quitclaim deed in favor of the County pertaining to any part of the Corridor that developers, or the landowners whom they represent, are able to sign over to the County, as a condition for obtaining a subdivision permit and/or encroachment permit. Such a conveyance should be noted on all relevant plats that are to be recorded in the County Recorder’s Office.

### 7.2.2 Acquisition

This technique involves the purchase of fee simple or lesser interests in property to bank or preserve it for the corridor location. This could be accomplished using federal funds, or by using state funds where a project would be implemented without federal participation. The use of state funds could generally be accomplished with more flexibility and fewer requirements. If federal funds are used or expected to be used for future elements of the project, certain federally required procedures must be followed. Acquisition can be accomplished in the following ways.

#### 7.2.2.1 Advance Purchase and Eminent Domain

Undeveloped property is acquired, either by direct purchase or eminent domain, and “banked” until needed for construction. Such a method may systematically acquire the entire right-of-way, or it may strategically acquire only selected parcels.

Under Utah statutes, acquisition of property by eminent domain is authorized if (a) the use is authorized by law, (b) the taking is necessary for such use, (c) the construction and use

of property will commence within a reasonable time, and (d) fair compensation is paid. Fair value must be paid for interests taken and damages which accrue to the remainder of adjacent property not taken (Utah Code Annotated §78-34-1).

Before property may be taken for a corridor, the acquiring agency must identify the corridor location, general route, and termini. If the acquiring agency, without reasonable justification, does not commence or complete construction and use of a roadway within the corridor within the time specified, additional damages might be payable to a property owner (Utah Code Annotated §27-12-96).

### 7.2.2.2 Hardship Acquisition

Property is acquired to alleviate a particular hardship to a property owner. The hardship must occur as a result of an inability to sell the property due to public awareness of the pending project. Applies only to limited parcel-by-parcel actions in extraordinary or emergency situations (Utah Code Annotated §27-12-96).

### 7.2.2.3 Purchase Options

A conditional contract or option is executed that gives the public agency the right but not the obligation to buy the property at a future date. The contract would specify the terms and conditions of the future purchase (Utah Code Annotated §27-12-96). A related concept involves the use of rights of first refusal under which the government entity obtains the first right to purchase the property when a landowner determines to sell its property.

### 7.2.2.4 Development Easements

The government agency purchases development rights or a development easement. The agreement would specify the uses that would be allowed on the land. The public agency would purchase the property owner's right to develop the land, leaving the owner with all other rights of ownership. Thus, intensification of and use or development would be precluded.

Existing Utah law provides for conservation easements to maintain land or water areas predominantly in a natural scenic, or open condition, or for recreational, agricultural, cultural, wildlife habitat or other use or condition consistent with the protection of open land. Such easements must be granted to a tax-exempt organization or government agency and cannot be obtained by eminent domain. The easement may be terminated pursuant to conditions set forth in the easement document (Utah Code Annotated §47-18-1).

### 7.2.2.5 Public Land Exchanges

Surplus government land is exchanged as compensation for private property needed for right-of-way.

### 7.2.2.6 Private Land Trusts

Private land trusts play an increasingly important role in land conservation where public objectives are aligned with private trust objectives. Where government budgets are insufficient to acquire critical tracts in a given time frame, private land trusts may acquire the tracts and hold them for future acquisition by the government.

### 7.2.3 Exercise of Planning and Zoning Authority

Regulatory controls under law enforcement power can be used to control the development of private property in order to preserve the transportation corridor. These measures impose requirements with no compensation to the landowner. Land use and development controls are typically administered by local governments (36 A.L.R.3d 751).

### 7.2.4 Impact Fees and Exactions

This method involves a mandatory property or monetary contribution by a developer to the local jurisdiction as a condition of a land use approval or permit. These approvals or permits could be associated with a contract zoning, site plan approval, proposed subdivision, special use permit, or other development permission. In most cases, impact fees and exactions can be assessed only after a jurisdiction makes an individualized determination that the required dedication is "roughly proportional" in both nature and extent to the impact of the proposed development. Impact fees and exactions include the following variations (Utah Code Annotated §11-36-201).

- In-kind contributions – Landowners and developers construct improvements or dedicate land for public facilities or right-of-way within or abutting the development site.
- Monetary payments in lieu of contributions – Developers pay money in lieu of or in addition to in-kind contributions. This method may be used where the pooled contributions of numerous small developments is more effective than individual dedications of small parcels of land. The money is then used to acquire right-of-way or make other improvements.
- Impact fees – This method applies to a broader range of improvements whose need is generated by a new development. The effected jurisdiction charges developers for a pro rata share of capital funding for the improvements based on relative contributions to the impacts of the development by newly developed property and existing developments.

Constitutional standards of reasonableness govern the validity and amount of impact fees and exactions. To be constitutional, an impact fee or exaction must be a fair contribution in relation to contributions by others. Thus, an impact fee or exaction must not require newly developed properties to bear more than their equitable share of the capital costs in relation to the benefits conferred.



Seven factors must be considered in analyzing the fairness of an impact fee or exaction (Utah Code Annotated §11-36-201):

- The cost of existing facilities.
- The manner of financing existing capital facilities (such as user charges, special assignments, bonded indebtedness, general taxes, or federal grants).
- The relative extent to which the newly developed properties and other properties in the jurisdiction have already contributed to the cost of existing capital facilities (by such means as user charges, special assignments, or payment from the proceeds of general taxes).
- The relative extent to which the newly developed properties in the jurisdiction will contribute to the cost of existing capital facilities in the future.
- The extent to which the newly developed properties are entitled to a credit because the jurisdiction is requiring their developers or owners (by contractual arrangement or otherwise) to provide common facilities (inside or outside the proposed development) that have been provided by the jurisdiction and financed through general taxation or other means (apart from user fees) in other parts of the jurisdiction.
- Extraordinary costs, if any, in servicing the newly developed properties; and
- The time-price differential inherent in fair comparisons of amounts paid at different times.

In addition to constitutional limitations, the Utah legislature, in special session in 1995 adopted stringent controls on the ability of local government to adopt impact fees to finance development growth. The new act requires that prior to the imposition of an impact fee, a government entity must do the following (*Branberry Development Corporation v South Jordan County*).

- Prepare a capital facilities plan that establishes that impact fees are necessary to achieve an equitable allocation to the costs borne in the past and to be borne in the future in comparison to the benefits already received and yet to be received.
- Prepare a written analysis of the impact fee identifying the impact on the system caused by the development activity, demonstrate how those impacts are reasonably related to the development activity, estimate the proportionate share of the impact cost that are reasonably related to the new development activity, and identify how the impact fee was calculated.
- Find that an impact fee is reasonably related to the new development based on analyses of specific factors.
- Calculate the impact fee based on a list of defined criteria.

- Hold public hearings on the adoption of the impact fee ordinance.
- Establish a service area within which the jurisdiction calculates and imposes impact fees for various land use categories and either adopts a schedule of such fees by use category or establishes the formula for calculating such fees by use category.

The new act contains other requirements relating to environmental mitigation fees, definitions of public facilities and in some cases detailed standards governing the adoption and administration of impact fees.

## 8 OTHER FUTURE ACTIONS

Along with the long- and short-term action items, the following actions should also be considered.

### **8.1 Interagency Agreement with UDOT**

After adoption, it will be necessary to complete an agreement with UDOT regarding access to the state highways. This will help the County by providing a framework for future access permit applications related to private development. It also helps UDOT by providing enough overall County information so individual access points can be reviewed with an understanding of future adjacent needs.

It is important that the County understands UDOT's requirements for traffic signals and the access points within the operational sphere of a signalized intersection. It is also important to understand UDOT's access permit requirements, which should be included in the County's subdivision and development process. It is recommended that the County coordinates with UDOT on every new development that may impact the state highway system. This will ensure the new development will share the burden of impact on that system. See section 4 for TIS requirements for developments along a state highway system.

### **8.2 Land Use Planning Integration**

The County's current Zoning Plan calls for growth adjacent to existing corridors. In rural communities like Millard County, traffic studies indicate that centralized commercial development land use has negative transportation impacts as the County grows. Residents from the less populated areas of the County must travel downtown or to the central corridor to go shopping, which creates increased traffic from the outlying areas into the most populated areas of the County. In these communities, small commercial clusters have been considered to minimize travel distances for people to buy goods and services and create convenient locations for people to shop. This could be accomplished in Millard County through rezoning or through planned unit developments. It is recommended that the County consults with an urban planner to discuss this concept in more detail.



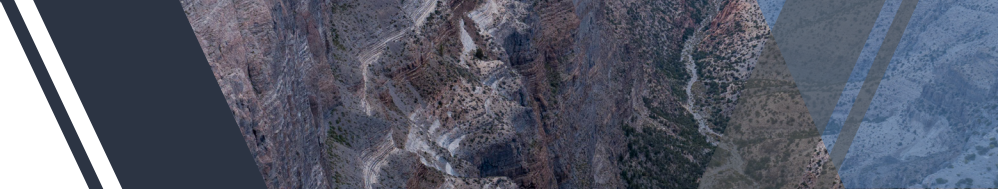
## 9 CLOSURE

The purpose of the Transportation Master Planning effort is to create a general guideline for growth and development, as well as provide a planning effort to increase mobility in and through Millard County. The transportation master plan is to act as a guide for future decisions in all County departments. As part of the planning effort, a GIS map database has been created and can be accessed via the County GIS webpage. This enables County officials to access the plan in an interactive environment and allows actual use of the plan in meetings, such as planning & zoning or County commission meetings.

The plan addresses the key components of a master plan by outlining projects that meet the goals of the County to be economically viable, provide safer mobility for its citizens, provide recommendations for standards within the County transportation network, and providing a general outline of needed projects within the next 30 years. Coordination with cities and towns within Millard County was essential in determining the needs of the County, and public input provided general information of the needs of the County's citizens. Coordination with UDOT was also necessary to ensure that the State, County, and municipality transportation systems work together to provide effective transportation for all users.

In closing, the plan has outlined the existing conditions of the transportation system within the County. A data-driven decision-making process has been used to make projections based on historical data. Based on future growth projections and current County needs, transportation guidelines and policies were developed. Working with County officials and cities and towns within the County, a short- and long-range project plan was developed for the years 2023-2053. This list will be updated to the transportation master plan every five years. To ensure safe mobility for users of the transportation network, access management was also addressed. Lastly, the most substantial component of the transportation master planning effort was to determine areas of concern where right-of-way preservation for future corridors would be required. An updated map has been provided for the future transportation network in Appendix 1, along with the interactive GIS map provided to the County.

For more information regarding the transportation network or the transportation requirements, County officials are available to answer questions as needed.



# MILLARD COUNTY TRANSPORTATION MASTER PLAN



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