

PUBLIC NOTICE

Notice is Hereby Given that the Tooele City Council & the Redevelopment Agency (RDA) of Tooele City, Utah will meet in a Work Meeting, on Wednesday, February 3, 2021 at the hour of 5:30 p.m. The Meeting will be held at the Tooele City Hall Council Chambers, located at 90 North Main Street, Tooele, Utah.

- 1. Open City Council Meeting
- 2. Roll Call
- 3. Mayor's Report
- 4. Council Member's Report
- 5. Sidewalk Replacement Program Presented by Debbie Winn, Mayor of Tooele City
- Resolution 2021-17 A Resolution of the Tooele City Council Approving an Interlocal Agreement with the Tooele County School District Presented by Debbie Winn, Mayor of Tooele City
- 7. **FY2021 Project Review** Presented by Shannon Wimmer, Finance Director
- 8. **Transportation Master Plan** Presented by Steve Evans, Tooele Public Works Director
- 9. Closed Meeting
 - Litigation, Property Acquisition, and Personnel
- 10. Adjourn

Michelle Y. Pitt Tooele City Recorder

Pursuant to the Americans with Disabilities Act, Individuals Needing Special Accommodations Should Notify Michelle Y. Pitt, Tooele City Recorder, at 435-843-2113 or <u>michellep@tooelecity.org</u>, Prior to the Meeting.

TOOELE CITY CORPORATION

RESOLUTION 2021-17

A RESOLUTION OF THE TOOELE CITY COUNCIL APPROVING AN INTERLOCAL AGREEMENT WITH THE TOOELE COUNTY SCHOOL DISTRICT.

WHEREAS, Tooele City has had numerous agreements with the Tooele County School District ("District"), some of which have expired, some of which need to be renewed, and some of which are needed to address new matters, in the aggregate covering many topics, including the following:

- Rancho Tooele Park/Spencer's Field use by the District
- 900 South vacation and use by the District
- Tooele High School auditorium use by the City
- Tooele High School stadium use by the City
- Pratt Aquatic Center use by the District
- Softball fields conveyance to the District, and reciprocal use
- District bus garage conveyance to the City
- Oquirrh Hills Golf Course use by the District
- City outdoor restrooms use by the District
- Shared parking by the City and the District; and,

WHEREAS, the City Administration has prepared a comprehensive interlocal agreement ("Agreement") attached as Exhibit A; and,

WHEREAS, the District Board of Education has approved the Agreement; and,

WHEREAS, the Agreement evidences a broad spirit of cooperation between the City and the District, a spirit that leads to shared efficiencies in the best interest of the City and District taxpayers; and,

WHEREAS, the City Council and City Administration find that the Agreement is in the best interest of all City and District taxpayers:

NOW, THEREFORE, BE IT RESOLVED BY THE TOOELE CITY COUNCIL that the Interlocal Agreement between Tooele City and the Tooele County School District (Agreement attached as Exhibit A) is hereby approved, and that the Mayor is hereby authorized to sign the Agreement and other documents necessary for the Agreement's implementation.

This Resolution is necessary for the immediate preservation of the peace, health, safety, or welfare of Tooele City and shall become effective upon passage, without further publication, by authority of the Tooele City Charter.

IN WITNESS WHEREOF, this Resolution is passed by the Tooele City Council this _____ day of ______, 2021.

(For)	TOOELE CITY COUNCIL	(Against)
ABSTAINING:		
(Approved)	TOOELE CITY MAYOR	(Disapproved)
ATTEST:		
Michelle Pitt, City Recorde	r	
SEAL		
Approved as to Form:	Roger Evans Baker, Tooele City Attorne	y

Exhibit A

Interlocal Agreement

INTERLOCAL AGREEMENT: Tooele City Corporation Tooele County School District

TOOELE CITY CORPORATION, a charter city and municipal corporation of the State of Utah, ("City"), and TOOELE COUNTY SCHOOL DISTRICT, a Utah school district ("District"; together the "Parties") enter into this Agreement on the 1st day of January, 2021 ("Effective Date").

RECITALS

WHEREAS, the Parties are each a public agency as defined in Utah Code Chapter 11-13 (the "Interlocal Act"), and are authorized by the Interlocal Act to cooperate on a mutually advantageous basis and as necessary to promote the general welfare; and,

WHEREAS, the Parties entered into that certain "Agreement for Use of the Tooele City Swimming Pool by the Tooele County School District" dated April 16, 2002, with term ending June 30, 2023; and,

WHEREAS, the Parties entered into that certain "Interlocal Agreement" dated September 3, 2008, regarding the District's use of 900 West Street and Rancho Park, with term ending September 2, 2018; and,

WHEREAS, the Parties entered into that certain "Memorandum of Agreement between Tooele City and Tooele County School District" dated September 12, 2016, regarding the District's expanded use of the Tooele City Swimming Pool and the City's use of District facilities; and,

WHEREAS, the Parties desire to enter into a new global agreement replacing and superseding the above agreements.

AGREEMENT

- 1) <u>Global Consideration</u>. The Parties acknowledge the various considerations described in this Agreement as being sufficient and acceptable for the various agreements and promises contained in this Agreement individually and in their aggregate.
- 2) <u>City Use of District Facilities.</u>
 - a) <u>Auditorium</u>. The District shall allow the City to use the Tooele High School auditorium for two days and evenings in connection with the City's Christmas Holiday concert activity and for three days and evenings in connection with the Miss Tooele City Pageant activities.
 - b) <u>Football Stadium.</u> The District shall allow the City to use the Tooele High School football stadium and field facilities in connection with the City's Independence Day concert activity.
 - c) <u>Coordination</u>. Respective City, District, and Tooele High School personnel will work cooperatively to coordinate the specific details of scheduling, access, personnel, maintenance, lighting and sound, etc.

- d) <u>Costs.</u> The District shall pay the custodial and technical expenses incurred during the Pageant and Holiday Concert. The City will pay its other expenses associated with these events.
- 3) <u>District Use of Rancho Park and 900 West</u>. The City owns and maintains for public use a park at approximately 900 West Street and Timpie Road.
 - a) <u>900 West.</u> The City approved Ordinance 2009-01 to vacate the portion of the 900 West Street right-of-way located between 1000 South Street and Timpie Road ("900 West"). The City shall allow the District to use by non-exclusive license the City-owned eastern one-half of 900 West ("City Portion"). 900 West and the City Portion are illustrated in Exhibit A.
 - b) <u>900 West Gate.</u> The District has installed a gate within and/or across the City Portion. The City shall allow the District to continue to have and maintain the gate at District expense. The District shall leave the gate open except during regular Settlement Canyon Elementary School hours and School-approved activities. In consultation with the Parks and Recreation Department, the District may close the gate at other times as necessary for student safety.
 - c) <u>Spencer's Field.</u> The City shall allow the District to use by non-exclusive license the western 55% of Rancho Park, an area measuring about 270 feet by 500 feet, comprising approximately 3.1 acres ("Spencer's Field") for student recreational activities weekdays from 8:00 a.m. to 3:00 p.m. during the official school year. The District shall provide adult supervision for all students participating in school-related activities at Spencer's Field. The City shall maintain Spencer's Field at City expense, and shall coordinate maintenance scheduling with the District. Spencer's Field is illustrated in **Exhibit B**.
 - d) <u>Fence.</u> The City installed, and the District paid for, a City-owned fence along the south and north boundaries of Spencer's Field. For the safety of its students, the District shall maintain and repair the fence at District expense.
 - e) <u>Recreational Equipment.</u> Subject to the prior written approval of the City Parks and Recreation Department, the District may install recreation equipment in Spencer's Field. Any such equipment shall be purchased, installed, and maintained at District expense. The equipment will be City-owned. The District acknowledges that the equipment will be available for public use when school classes are not in session.
 - f) <u>Utility Easement.</u> The District agrees and acknowledges that the City retains an easement for the installation, maintenance, repair, and replacement of all City-owned utilities located within 900 West.
- 4) <u>District Use of City Swimming Pool.</u> The City owns and maintains for public use a swimming pool facility ("Swimming Pool).
 - a) <u>Competition Pool.</u> The City shall allow the District to use the competition lane area ("Competition Pool") of the Swimming Pool by District high school swim teams and meets. The District shall have priority use of the Competition Pool from August 1 through May 1, as follows.
 - i) <u>Swim Practice</u>. District high school swim team practice:
 - (1) up to two hours each weekday prior to the District's regular high school hours;

- (2) up to two and one-half hours each weekday immediately after regular school hours; and,
- (3) three additional hours during each week, determined cooperatively by the City and the District and its swim teams.
- ii) <u>Swim Meets.</u> Utah High School Activities Association sanctioned swim meets, including dual, region, and state swim meets ("Swim Meets").
- b) <u>Leisure Pool.</u> The District agrees that its use of the Competition Pool shall not preclude the City's simultaneous use of the leisure, non-competitive portions of the pool ("Leisure Pool"). The District shall make reasonable efforts to ensure that its use of the Competition Pool does not disrupt or interfere with the public's use of the Leisure Pool. The City shall make reasonable efforts to ensure that the public's use of the Leisure Pool does not disrupt or interfere with the District's use of the Competition Pool.
- c) <u>Scheduling Priority.</u> Swim Meets shall have priority use over any other uses of the Competition Pool, and shall include a reasonable period of time before and after each meet for participating schools to prepare for the meet and to leave the Swimming Pool. Any youth swimming program or activity that is not a part of the District's swimming program or is not a part of a Utah High School Activities Association sponsored program, shall not be considered a District use of the Competition Pool under this Agreement.
- d) Operation and Maintenance. The City will maintain and operate the Swimming Pool at its cost. The City will provide the staff necessary to operate and maintain the Competition Pool during all of the times that the District is using the Competition Pool. Notwithstanding, the District shall provide certified lifeguards and qualified adult supervision for all District uses of the Competition Pool. The District agrees that its use of the Competition Pool shall be consistent with that of a typical school swimming program. The District agrees to comply with all reasonable regulations established by the City for the use of the Competition Pool, provided they are consistent with the requirements of a regular high school swim program.
- e) <u>Cleaning.</u> The District understands and agrees that the City will close the Swimming Pool for two weeks each August and February. The Parties will coordinate scheduling to avoid conflicts with scheduled swim meets. These closures shall not entitle the District to additional Competition Pool use other than that described in Section 4(a) herein.
- f) <u>Keys.</u> The City shall assign a limited number of Swimming Pool keys to designated District personnel to facilitate the District's use of the Competition Pool. The District shall not copy Swimming Pool keys and shall not distribute keys to persons other than designated District personnel.
- 5) <u>Softball Fields</u>. The City owns and maintains for public use a four-plex softball field facility located on 200 West Street.
 - a) <u>Fields.</u> The City agrees to quit claim to the District by Quit Claim Deed an approximately 3.742-acre area containing the northwestern two softball fields ("District Fields") by March 1, 2021. After the Effective Date and prior to quit claim conveyance, the City will allow by license the District to construct, own, use, and maintain softball-field-related improvements and fixtures on the District Fields. At all times between the Effective Date and quit claim conveyance, the District shall maintain liability and casualty insurance for

the District Fields. The District shall provide evidence of insurance to the City within 15 days after the Effective Date. The District Fields are illustrated in **Exhibit C**. The form of the Quit Claim Deed is attached as **Exhibit D**. The City shall continue to own the two remaining softball fields ("City Fields").

- b) <u>Public Use.</u> The City and the District shall work cooperatively to allow each other and the public to use the District Fields and the City Fields. The District shall have scheduling priority for the District Fields. The City shall have scheduling priority for the City Fields. Neither the District nor the City shall charge each other for the use of each other's fields.
- c) <u>Parking.</u> Each of the Parties shall allow their respective Softball Fields and Swimming Pool patrons and invitees to use the parking facilities associated with the Softball Fields and Swimming Pool.
- d) <u>Lighting.</u> Neither of the Parties shall be required to install or energize lighting for their respective softball fields.
- 6) <u>Bus Garage.</u> The District agrees to quit claim to the City by Quit Claim Deed an approximately 4.04-acre area containing the District bus and transportation office/warehouse complex and parking area ("Bus Garage") by October 1, 2021, or as soon as practicable thereafter, but no later than December 31, 2021. The Bus Garage is illustrated in **Exhibit E**. The form of the Quit Claim Deed is attached as **Exhibit F**.
- 7) <u>Oquirrh Hills Golf Course.</u> The City shall allow the District to use the City's Oquirrh Hills Golf Course ("Golf Course") by only the Tooele High School and Grantsville High School golf teams, with no more than two teams per school. Only one school's teams may use the Golf Course for practice on any given day. The coaches for the respective teams shall coordinate team schedules with each other and with the Golf Course. The teams may not schedule tee times earlier than 24 hours before the desired tee-times. If no tee-times are available, teams will be placed on standby. Team use is subject to other priority events at Golf Course discretion including golf tournaments. The District may use the Golf Course pavilion following team matches.
- 8) <u>Term</u>. The term of this Agreement is 15 years and five months from the Effective Date, terminating automatically on June 1, 2036.
- 9) <u>Survival.</u> The following provisions shall survive any termination of this Agreement:
 - i) Indemnification (paragraph 10)
 - ii) Utility Easements (paragraph 3f)
 - iii) Prior Agreements Terminated (paragraph 16)
 - iv) Waiver of Jury Trial (paragraph 18)
- 10) <u>Indemnification</u>. Each of the Parties shall indemnify and hold harmless the other from all claims arising out one Party's use of the other Party's facilities.
- 11) <u>Damage to Facilities</u>. Each of the Parties shall be responsible for and pay for the cost of damages caused by its agents, employees, invitee, and students to the other Party's property and facilities during the term of this Agreement.

- 12) <u>Breach.</u> Upon any breach or nonperformance by either of the Parties, the Party alleging the breach or nonperformance shall give notice to the other Party, which shall have 30 days to remedy the breach or nonperformance.
- 13) <u>Dispute Resolution</u>. The Parties shall confer informally to resolve any dispute between them over the subject matter herein. Failing resolution after informal meeting, the Parties shall then engage in good-faith non-binding mediation.
- 14) <u>Notices.</u> All notices, demands, requests, or other communications required or permitted by this Lease shall be in writing and effective when received, and delivery shall be made personally, or by registered or certified mail, return receipt requested, postage prepaid, or overnight courier, addressed as follows:

TOOELE COUNTY SCHOOL DISTRICT
Attention: Superintendent
92 Lodestone Way
Tooele, UT 84074

- 15) <u>Defined Terms.</u> Unless otherwise defined herein, capitalized terms used in this Agreement shall have the meanings given to them in the Agreement, which terms are incorporated by reference herein.
- 16) <u>Prior Agreements Terminated.</u> The Parties do hereby rescind, terminate, and cancel all prior agreements regarding the subject matter herein and do extinguish all prior rights and obligations contained therein, except for terms contained in this Agreement.
- 17) Force Majeure: If the Parties' respective obligations under this Agreement are rendered impossible or hazardous or are otherwise prevented or impaired due to accident, interruption, or failure as related to acts of God, riots, strikes, labor difficulties, epidemics, pandemics, earthquakes, any act or order of any public authority, and/or act of terrorism, beyond the control of the Parties, then the respective applicable obligations with respect to the performance of this Agreement shall be excused and the Parties shall have no liability to each other in connection therewith.
- 18) <u>Waiver of Jury Trial.</u> The Parties waive any and all right to trial by jury in any legal proceeding arising out of or relating to this Agreement and the transactions contemplated herein.
- 19) <u>Authority</u>. The individuals executing this Agreement represent and warrant to the Parties that they possess the legal authority to execute this Agreement pursuant to the terms herein, such authority being granted and evidenced by duly adopted Resolution of each of the Parties.
- 20) <u>No Third-Party Beneficiaries</u>. Nothing in this Agreement is intended for the benefit of any party except for the named Parties. The execution and delivery of this Agreement shall not be deemed to confer any rights upon, nor obligation any of the Parties to, any person or entity other than to each other.
- 21) No Assignment. This Agreement is not assignable.
- 22) <u>Attorney Fees.</u> In any proceeding or action arising out of this Agreement, each of the Parties shall pay its own attorney fees and costs.
- 23) <u>Construction of Agreement</u>. This Agreement shall be construed as a whole in accordance with its fair meaning and in accordance with the laws of the State of Utah, without giving effect to

conflict of law principles. The terms of this Agreement have been negotiated by the Parties at arm's length, and the language of the Agreement shall not be construed in favor of or against any particular party.

- 24) <u>Headings.</u> The headings used in this Agreement are inserted for reference purposes only and shall not be deemed to define, limit, extend, describe, or affect in any way the meaning, scope, interpretation, or construction of any of the terms or provisions of this Agreement or the intent hereof.
- 25) <u>Mutual Participation in Document Preparation</u>. Each of the Parties has participated materially in the negotiation and preparation of this Agreement and any related items. In the event of a dispute concerning the interpretation of any provision of this Agreement or any related item, both parties will be deemed to have jointly drafted this document and the rule of construction to the effect that certain ambiguities are to be construed against the party drafting a document will not apply.
- 26) <u>Entire Agreement.</u> This Agreement constitutes the final expression of the Parties as to the terms of this Agreement and the subject matter hereof, and supersedes all prior agreements, negotiations, discussions, and understandings between the Parties and/or their respective counsel with respect to the subject matter covered hereby.
- 27) <u>Counterparts.</u> This Agreement may be executed in any number of counterparts, each of which will be an original but all of which will constitute one and the same instrument. Signature and acknowledgement pages may be detached from individual counterparts and attached to a single or multiple original(s) in order to form a single or multiple original(s) of this document.
- 28) <u>Facsimile Signatures.</u> Facsimile signatures in one or more counterparts of this Agreement shall be binding.
- 29) <u>Amendment to Agreement.</u> Any amendment to this Agreement must be in a writing signed by duly authorized representatives of all of the Parties hereto, in conformance with state and local law, and affirmatively stating the intent of the Parties to amend this Agreement.

[Remainder of page intentionally blank. Signature page follows.]

Now, therefore, this Agreement is hereby signed by the Parties:

TOOELE CITY CORPORATION

TOOELE COUNTY SCHOOL DISTRICT

Debra E. Winn, Mayor

Authorizing Resolution: City Resolution 2021-____ Approved on ______ Scott Rogers, Superintendent

Authorizing Resolution: District Resolution 2021-____ Approved on ______

Attest

Michelle Y. Pitt, City Recorder

Approved as to Form

Approved as to Form

Roger Evans Baker, City Attorney

Attorney for District

Exhibit A

Illustration of 900 West and City Portion



Exhibit B

Illustration of Spencer's Field



Exhibit C

Illustration of District Fields



3.472 ACRES OF RESIDENTIAL LAND SITE DESCRIPTION



Exhibit D

Form of Quit Claim Deed—District Fields

Contact: Superintendent of Schools 92 South Lodestone Way Tooele, UT 84074 (435) 833-1900

QUIT-CLAIM DEED

Affected Parcels: 02-083-0-0017, 02-083-0-0023

TOOELE CITY CORPORATION (aka City of Tooele, aka Tooele City), a Utah municipal corporation and charter city, **Grantor**, at 90 North Main, Tooele, Utah 84074, hereby quitclaims to **THE BOARD OF EDUCATION OF TOOELE COUNTY SCHOOL DISTRICT** (aka Tooele County Board of Education), a Utah school district, **Grantee**, at 92 Lodestone Way, Tooele, Utah 84074, for the sum of \$10.00 (ten dollars), and other good and valuable consideration, the parcel of land described in Exhibit A, attached hereto and incorporated herein, located in Tooele City, Tooele County, State of Utah.

Witness the hand of said Grantor this _____ day of _____, 2020.

By:

Debra E. Winn, Tooele City Mayor

STATE OF UTAH) :ss. COUNTY OF TOOELE)

On the date first above written personally appeared before me, Debra E. Winn, Tooele City Mayor, the signer of this Quit-Claim Deed, who duly acknowledged to me that she executed the same with full authority to sign on behalf of Tooele City Corporation, Grantor.

Notary Public for Utah

EXHIBIT A: Legal Description

A part of Block 4, Plat B, Tooele City Survey which is also a part of the Southwest Quarter of Section 28, Township 3 South, Range 4 West, Salt Lake Base and Meridian, U.S. Survey. Beginning at a point 495.00 feet North 89*33'35" West along the South line of said Block 4 and 519.00 feet North 0*26'25" East from the Southeast Corner of said Block 4; said point being 553.34 feet North 0°40'09" West and 1572.66 feet North 89°33'35" West 1572.66 feet along the centerline of Vine Street and thence 519.00 feet North 0°26'25" East from the Southwest Corner of said Section 28; and running thence North 89*33'34" West 103.50 feet; thence South 0'33'51" West 205.00 feet: thence North 89°33'35" West 12.00 feet; thence North 0*33'51" East 599.50 feet; thence South 89*33'35" East 113.23 feet: thence North 2*26'00" East 93.56 feet; thence South 89°33'35" East 301.71 feet; thence South 43°17'13" East 124.80 feet; thence South 46*49'16" West 501.49 feet: thence North 89°24'44" West 26.65 feet; thence South 0°33'51 West 51.40 Feet to the point of beginning.

Contains 3.47 Acres



3.472 ACRES OF RESIDENTIAL LAND SITE DESCRIPTION



@ 2020 VALBRIDGE PROPERTY ADVISORS | Salt Lake City

Page 15



Exhibit E

Illustration of Bus Garage

TOOELE OFFICE/WAREHOUSE COMPLEX SITE DESCRIPTION





@ 2020 VALBRIDGE PROPERTY ADVISORS | Salt Lake City

Page | 16

Exhibit F

Form of Quit Claim Deed—Bus Garage

CONTACT: City Recorder 90 North Main Street Tooele, UT 84074 (435) 843-2113

QUIT CLAIM DEED

Affected Parcel: 10-029-T-0006

The **BOARD OF EDUCATION OF TOOELE COUNTY SCHOOL DISTRICT** (aka Tooele County Board of Education), Grantor, hereby quitclaims to **TOOELE CITY CORPORATION**, a Utah municipal corporation, Grantee, the real property (the "Property") described and illustrated below and in Exhibit A, attached hereto and incorporated herein, consisting of 4.04 acres, more or less, together with all buildings, fixtures, and improvements, located approximately at the street address of 925 South Coleman Street, Tooele City, Utah.

LOT 6, TRI-SHOPS SUBDIVISION, A SUBDIVISION OF TOOELE CITY OUT OF 2-10-6 & 2-12-1

Witness the hand of said Grantor this _____ day of _____, 2020.

By:

Scott Rogers, Superintendent Tooele County School District

STATE OF UTAH) :ss. COUNTY OF TOOELE)

On the date first above written personally appeared before me, Scott Rogers, Superintendent of Schools of the Tooele County School District, the signer of this Quit-Claim Deed, who duly acknowledged to me that he executed the same with full authority, to sign on behalf of Grantor, Board of Education of Tooele County School District.

Notary Public for Utah

Valbridge PROPERTY ADVISORS TOOELE OFFICE/WAREHOUSE COMPLEX SITE DESCRIPTION



@ 2020 VALBRIDGE PROPERTY ADVISORS | Salt Lake City

Page | 16



TOOELECITY TRANSPORTATION MASTER PLAN





EXECUTIVE SUMMARY

Tooele City continues to see rapid growth with the development of the Overlake area and many other residential and commercial developments. Tooele is located in Tooele County, Utah, about 8 miles south of I-80 along SR-36. Tooele is south of Stansbury park and southeast of Grantsville, and Tooele City itself is surrounded by unincorporated Tooele County.

The purpose of this Transportation Master Plan (TMP) is to provide a supplement for the transportation element of the General Plan and to plan for the future multi-modal transportation needs of Tooele City given the current future land use plans. The following are the key findings of this transportation master plan (TMP):

Tooele Characteristics

The population in Tooele has grown rapidly in recent years, more than doubling itself since 1990 to a current population of approximately 35,300 people (2018). There are over 10,000 households in the City. The average commute time for residents is approximately 30 minutes.

Roadway Network

All City roadways, with the exception of 1000 North to the east of the 1000 North (SR-112) / Main Street (SR-36) intersection, are currently operating at acceptable levels of service. Some segments of SR-36 are operating poorly. UDOT is already planning additional widening on SR-36 but will need to also plan for widening on SR-112 between Main Street (SR-36) and Utah Avenue.

Future traffic volumes were estimated using development projections and proximity to regional attractions. It is anticipated that City roadways such as Utah Avenue, 1000 North, and 2000 North will operate poorly in full-build conditions. Planned and proposed projects for UDOT roadways are listed in the report. A map of the proposed future roadway network in 2040 conditions is shown in Figure ES-1 and typical cross sections are shown in Figures 3 through 7.

Alternative Modes

The existing transit system includes one bus route and three flex bus routes. Future transit projects are currently being studied.

The City has existing bike lanes on Vine Street, 1000 North, and 100 East Future recommendations for bike routes include continuing the bike facilities on Vine Street and 100 East and constructing new facilities on 400 West and Droubay Road, as well as a trail along the west edge of the City.





ACKNOWLEDGEMENTS

Tooele City

Jim Bolser, Community Development Director Paul Hansen, City Engineer Andrew Aagard, City Planner/Zoning Administrator

Tooele Mayor & City Council

Debbie Winn, *Mayor* Scott Wardle, *City Council* Justin Brady, *City Council* Melodi Gochis, *City Council* Tony Graf, *City Council* Ed Hansen, *City Council*

Tooele Planning Commission

Tyson Hamilton Chris Sloan Matt Robinson Melanie Hammer Shauna Bevan Ray Smart Nathan Thomas

Consultant Team – Hales Engineering

Ryan Hales, PE, PTOE, AICP Josh Gibbons, EIT Joseph Browning, EIT TOOELE CITY TRANSPORTATION MASTER PLAN

TABLE OF CONTENTS

Ackı	nowledgements	iii
Ι.	Introduction	1
Α.	Overview	1
II.	Tooele Characteristics	3
А. В. С.	Purpose Land Use Demographics	3 3 3
III.	Roadway Network	5
A. B. C. D. E. F.	Purpose Functional Classification Level of Service Analysis Existing Conditions Future Conditions Truck Routes	5 5 8 11 18 27
IV.	Alternative Modes of Transportation	31
IV. A. B. C.	Alternative Modes of Transportation Purpose Public Transit Active Transportation	31 31 31 31
IV. A. B. C. V.	Alternative Modes of Transportation Purpose Public Transit Active Transportation Safety	31 31 31 31 31
IV. A. B. C. V. A. B. C. D.	Alternative Modes of Transportation Purpose Public Transit Active Transportation Safety Purpose Safety Hotspots Traffic Calming Access Management	
IV. A. B. C. V. A. B. C. D. VI.	Alternative Modes of Transportation Purpose Public Transit Active Transportation Safety Purpose Safety Hotspots Traffic Calming Access Management Conclusion	
IV. A. B. C. V. A. B. C. D. VI. A. B.	Alternative Modes of Transportation Purpose Public Transit Active Transportation Safety Purpose Safety Hotspots Traffic Calming Access Management Overview Next Steps	
 IV. A. B. C. D. VI. A. B. A. B. A.PPI 	Alternative Modes of Transportation Purpose Public Transit Active Transportation Safety Purpose Safety Hotspots Traffic Calming Access Management Overview Next Steps	

LIST OF TABLES

Table 1: Roadway Classifications	6
Table 2: Level of Service Descriptions	8
Table 3: Roadway Capacities	10
Table 4: Intersection LOS Criteria	11
Table 5: Existing Evening Peak Hour Intersection Level of Service	17
Table 6: Recommended Improvement Projects	24
Table 7: Access Management Spacing Recommendations	44

LIST OF FIGURES

Figure 1: Vicinity map	2
Figure 2: Tooele mode split	4
Figure 3: Principal arterial cross-section	6
Figure 4: Arterial cross-section	6
Figure 5: Major collector cross-section	7
Figure 6: Minor collector cross-section	7
Figure 7: Local street cross-section	7
Figure 8: Visual representation of LOS	9
Figure 9: Existing roadway network	12
Figure 10: Existing ADT and LOS	14
Figure 11: Existing (2020) evening peak hour traffic volumes	15
Figure 12: Existing (2020) evening peak hour intersection LOS	19
Figure 13: Future land use map	20
Figure 14: Future no-build LOS	23
Figure 15: Future projects	25
Figure 16: Future roadway network	26
Figure 17: Future full-build LOS	29
Figure 18: Truck routes	30
Figure 19: Public transit route map	

TOOELE CITY TRANSPORTATION MASTER PLAN

Figure 20: Bike routes	34
Figure 21: Bike treatments	35
Figure 22: Driver feedback sign	
Figure 23: Lane striping	
Figure 24: Speed legend	
Figure 25: Traffic circle	
Figure 26: Chicane	40
Figure 27: Lateral shift	41
Figure 28: Bulb-out	41
Figure 29: Choker	42
Figure 30: Raised pedestrian crossing	43
Figure 31: Offset diagram	45

I. INTRODUCTION

A. OVERVIEW

Since being incorporated as a town in 1853, Tooele City has experienced rapid growth, particularly in recent years, growing into a city with a population of nearly 35,000 people. With this growth comes many challenges and opportunities to provide safe and efficient transportation for the citizens of Tooele.

The City continues to see rapid growth with the development of the Overlake area and many other residential and commercial developments. With a high number of residents traveling in and out of the City to commute to work during peak hours, there are existing challenges with transportation in the City. The purpose of this Transportation Master Plan (TMP) is to plan for the multi-modal transportation needs of Tooele City, accounting for the projected future growth.



Tooele is located in Tooele County, Utah, about 8 miles south of I-80. Tooele is located near Stansbury Park to the north and Grantsville to the northwest. Surrounding the rest of Tooele is unincorporated Tooele County. A vicinity map of Tooele City is shown in Figure 1.



The Tooele City TMP is being updated with the most current land use plans. Because of large and often unpredictable growth in the City, it is necessary to update this TMP periodically. The most recent TMP was completed in November 2010. This TMP is an update to the previous plan and is included within the updated Tooele City General Plan as the transportation element of that plan.

Key to planning for Tooele's transportation needs is an understanding of the city's goals and policies related to transportation. The other portions of the General Plan include future land use and development plans and goals in the City and how those will be achieved. This TMP provides details regarding the City's transportation needs, including future demand and improvements, to meet the goals outlined by the City. The TMP expands the vision for the General Plan into actionable mobility-related goals and objectives to guide Tooele's near- and longterm transportation investments.


II. TOOELE CHARACTERISTICS

A. PURPOSE

The purpose of this section is to discuss the existing and future planned land use and demographics of Tooele City. The land use and demographics characteristics were considered in developing future transportation demand projections and determining future transportation needs in the City.

B. LAND USE

This section discusses plans for existing and future land use in Tooele City. Land use is a good predictor of transportation trends and demand. Therefore, it is important to identify existing and future land use when planning for transportation needs. There are several parcels on the outside edges of the City that are anticipated to experience development in the near future, especially north

of 1000 North (SR-112). Other areas that already have some developed land will experience in-fill development projects that will increase the density of land uses.

1. Existing

Most of Tooele City currently consists of residential uses with nearly 11,000 current households in the City. Existing commercial and office developments are primarily located along the SR-36 corridor. There are also several industrial establishments, which are located on the west side of the City near the Army Depot. Other land uses that are currently located in the City are K-12 public schools, City and County buildings, religious buildings, and medical care facilities.

2. Future

In preparation to complete this TMP, Tooele City staff summarized the projects and land that are anticipated to develop in the next twenty years and beyond to help determine future transportation demand in the City.

C. DEMOGRAPHICS

This section discusses the demographics of Tooele City and provides helpful information about how people live, work, and play. These characteristics have a direct impact on the transportation needs of the City. The existing demographics data come primarily from U.S. Census data, including the American Community Survey results.

1. Population



The population in Tooele City has grown rapidly in recent years, more than doubling from 1990 to the present. According to the U.S. Census the population in 2010 was 30,167. It is estimated that the population in 2018 was 33,805. The median age of the population is approximately 31 years, and approximately 31 percent of the

Population (2018): 33,805

population is 18 years or younger.

2. Households



Similar growth has occurred for the number of households in Tooele. According to the U.S. Census, the number of households in Tooele was 7,459 in the year 2000. The estimate for households was approximately 10,096 in 2010 and 10,731 in 2018. Therefore, it is estimated that there are approximately 3.1 persons per household.

Approximately 75 percent of homes are single-family detached units, and the rest are apartments, condos, townhomes, mobile homes, etc. Approximately 29 percent of the homes have been built since the year 2000. Related to transportation demand, approximately 96 percent of households have at least one vehicle available for use, and approximately one-third of households have at least three vehicles.

Households (2018): 10,731

3. Employment & Journey to Work



As of 2018, over 24,000 Tooele residents were employed, and the median household income was \$68,000. Unlike population, the employment opportunities within the City have not seen significant growth until the last few years. Tooele has seen an increase in regional retail developments along Main Street (SR-36) between 1000 North and 2000 North. Approximately 40% of residents work outside of Tooele County.

Data were collected from the U.S. Census American Community Survey results for Tooele to determine the mode split in the City. The recent mode split in the City based on survey results from 2014 to 2018 is shown in Figure 2.



Figure 2: Tooele mode split

As shown, approximately three-fourths of workers drive alone in a personal vehicle to work. Approximately 17 percent carpool and 1.4 percent ride transit. It is anticipated that as transit, pedestrian, and bicycle facilities improve in the city the percentage of personal vehicle usage for commuting will decrease. Approximately 30 percent of workers leave between 7:00 and 9:00 a.m. to travel to work. The average commute time to work for Tooele residents is 28.6 minutes.

III. ROADWAY NETWORK

A. PURPOSE

The purpose of this chapter is to discuss the characteristics and needs of the existing and future roadway networks. Recommendations for future improvements are discussed as well, based on the future projections. The analysis methodologies and models that were used are also discussed.

B. FUNCTIONAL CLASSIFICATION



Roads are categorized into a hierarchal system and given a functional classification based on right-of-way (ROW) width. The higher a street classification, the more mobility it provides with limited access. Lower street classifications have less mobility, but more access. The four classifications defined in the Tooele



The following are the four typical street classifications for Tooele City roadways:

City code are arterials, major collectors, minor collectors, and local streets.

- <u>Arterial</u> Arterials are designed to have greater mobility and connect traffic between population centers and regional attractions. Because of their increased mobility, arterials typically have higher speeds and a high degree of access control, with the exception of some historical sections. Arterials have a ROW of 106 feet.
- <u>Major Collector</u> Major collector roads are designed to connect with and augment the arterial system and provide access control. Generally, these streets are intended to carry traffic for shorter distances than arterials and have lower speeds. Major collectors have a ROW of 84 feet.
- <u>Minor Collector</u> A minor collector road is designed to carry low-speed traffic and provides greater access than major collectors. Minor collector roads are also designed for greater mobility than local streets as they are generally wider and as a result have less side friction with on-street parking. Minor collectors have a ROW of 66 feet.
- <u>Local Street</u> Local streets are designed for accessibility and have less mobility than any other functional classification. The primary purpose of these is to provide access to surrounding properties and carry low-speed traffic. Some local streets may be designed to discourage through-traffic in neighborhoods. Local streets have a ROW of 60 feet.

A summary of the Tooele roadway classifications is shown in Table 1. Typical cross-sections were designed for each of the Tooele street classifications primarily based on the existing City cross-section standards. These are shown in Figures 3 through 7. These cross-sections do not necessarily match existing roadway cross-sections but are recommended cross-sections for new and improved roadways in the future. Bike treatments are not included in these concepts and may require additional ROW and/or pavement. The colors shown in Table 1 correspond to colors shown in both the cross-section figures and the roadway network figures shown later in the document. The Principal Arterial classification is being introduced based on future roadway improvement recommendations and has a seven-lane cross-section to accommodate higher demands.

	Tooele Roadwa	y Classifications
	Classification	Characteristics
Mobility	Principal Arterial	ROW: 112 feet
♠	Arterial	ROW: 106 feet 5 Lanes
	Major Collector	ROW: 84 feet 3 Lanes
	Minor Collector	ROW: 66 feet 2 Lanes
▼ Access	Local Street	ROW: 60 feet 2 Lanes

Table 1: Roadway Classifications



Figure 3: Principal arterial cross-section







Figure 5: Major collector cross-section



Figure 6: Minor collector cross-section



Figure 7: Local street cross-section

C. LEVEL OF SERVICE ANALYSIS

Level of service (LOS) is a term that describes the operating performance of an intersection or roadway. LOS is measured quantitatively and reported on a scale from A to F, with A representing the best performance and F the worst. Calculating a planning-level LOS for a roadway segment is completed based on volume-to-capacity (v/c) ratios. The volume is the average daily traffic (ADT) for the given roadway segment and the capacity is based on factors such as lane count and traffic signal spacing.

Table 2 provides a brief description of each LOS letter designation and the accompanying range of v/c ratios. A visual representation of the various levels of service is shown in Figure 8.

Level of Service	Description of Traffic Conditions	Volume / Capacity Ratio
A	Extremely favorable progression and a very low level of control (intersection) delay. Individual users are virtually	≤ 0.30
	unaffected by others in the traffic stream.	
	Good progression and a low level of control delay. The	
В	presence of other users in the traffic stream becomes noticeable.	> 0.30 - 0.50
	Fair progression and a moderate level of control delay. The	
С	operation of individual users becomes somewhat affected by interactions with others in the traffic stream.	> 0.50 - 0.75
D	Marginal progression with relatively high levels of control	> 0.75 - 0.85
	delay. Operating conditions are noticeable more constrained.	
E	Poor progression with unacceptably high levels of control delay. Operating conditions are at or near capacity.	> 0.85 - 1.00
F	Unacceptable progression with forced or breakdown operating conditions.	> 1.00

Table 2: Level of Service Descriptions

Source: Highway Capacity Manual (HCM) 6th edition (Transportation Research Board, 2016).

For the purposes of this TMP, a minimum overall performance for each of the study roadways and intersections was set at LOS D. A LOS D threshold is consistent with "state-of-the-practice" traffic engineering principles. Improvements are recommended when a roadway or intersection LOS is E or F.

TOOELE CITY TRANSPORTATION MASTER PLAN



Figure 8: Visual representation of LOS

1. Roadway Capacities

The capacities for each roadway type were identified using Transportation Research Board (TRB) *Highway Capacity Manual*, 6th Edition, 2016 methodologies and based on common practice in Utah. Key factors that influence the capacity of a roadway include the number of travel lanes, presence of a two-way left-turn lane (TWLTL) or turn pockets, level of access management, and signal spacing. The assumed LOS E/F capacity thresholds for Tooele City roadways are shown in Table 3, reported as vehicles per day (vpd).

Roadway Capacities					
Functional Classification	Number of Lanes	Capacity (vpd)			
Minor Collector Local Street	2	12,400			
Major Collector	3	17,800			
Arterial	5	38,000			
Principal Arterial	7	58,000			

Table 3: Roadway Capacities

2. Intersection LOS

Intersection LOS looks at individual intersections and provides a microscopic view of a roadway network. LOS at intersections can be broken down into directions and respective movements (left-turns, through movements, or right-turns). A detailed look at intersections should occur as frequently as necessary since they are a source of bottlenecks. The Highway Capacity Manual has divided intersections into two types, signalized and un-signalized. The methodology to calculate the delay per vehicle at an intersection is outlined in the *Highway Capacity Manual* (HCM), 6th Edition, 2016 and the subsequent delay criteria and corresponding LOS. A LOS D for intersection delay has been determined to be the acceptable limit for Tooele City. The delay thresholds for each LOS for both signalized and unsignalized intersections can be found in Table 4.

The levels of service for signalized, all-way stop-controlled (AWSC), and roundabout intersections are calculated as a weighted average of all movements. The LOS for a two-way stop-controlled (TWSC) intersection is equal to the LOS of the worst movement. Failing LOS conditions are typically experienced during the peak hours (morning and/or evening). It is not uncommon for a side street or access on busy arterials to experience LOS worse than D during the peak hours due to high traffic volumes on the major roadway. Vehicles generally learn to re-route to signalized intersections in these cases.

	LOS Delay Criteria (sec. / vehicle)				
LOS	Signalized Intersections	TWSC, AWSC, & Roundabout Intersections			
Α	≤ 10	≤ 10			
B > 10 - 20 > 10 - 15					
С	> 20 - 35	> 15 - 25			
D > 35 - 55 > 25 - 35					
E > 55 - 80 > 35 - 50		> 35 - 50			
F	> 80	> 50			
Source: <i>Highway Capacity Manual</i> , 6 th Edition, 2016					

Table 4: Intersection LOS Criteria

D. EXISTING CONDITIONS

This section discusses the existing roadway and intersection conditions in Tooele. The current LOS for each of the major roadways and intersections in Tooele were analyzed. It is important to analyze the existing conditions as this serves as a baseline with which future conditions and alternatives can be compared.

1. Existing Roadway Network

Major roadways in Tooele have been designed on a grid system as is the pattern along much of the Wasatch Front as well. Many north-south roads are located approximately every 400 or 800 feet. Spacing of major east-west roads varies between approximately 650 feet and 800 feet.

State Route 36 (SR-36) is the City's primary north-south highway through town. Other major north-south roadways include Coleman Street, 200 West, 100 West, 100 East, Broadway Avenue, 7th Street, and Droubay Road. 1000 North is the City's primary east-west roadway, which is designated as State Route 112 (SR-112) west of SR-36. Other major east-west routes include 700 South, 200 South, Vine Street, Utah Avenue, 200 North, 400 North, 2000 North, and 2400 North.

Local roadways in Tooele are a mixture of grid systems in some areas and unconnected roads with cul-de-sacs in other areas. Discontinuous local road systems can lead to unnecessary congestion and delay on collector and arterial roads, as vehicles are forced to take those routes even for short trips. Therefore, it is recommended that the grid system be followed as much as possible as areas develop.

The functional classifications discussed previously were assigned to the roadways in Tooele based on existing number of lanes. The existing roadway network map that shows the functional classifications is shown in Figure 9. Most roadways in Tooele City are maintained by the City. Main Street (SR-36) and 1000 North (SR-112) are state roadways and maintained by the Utah Department of Transportation (UDOT).



2. Existing Volumes and LOS

Roadways

In order to accurately identify existing conditions on the roadway network in Tooele City, the consultant team gathered traffic data. Existing traffic volumes were obtained from various sources, including the following:

- <u>UDOT</u> Many of the traffic volume values on State roads and other federal aid roads were obtained from UDOT's *Traffic on Utah Highways* database. These ADT values were 2017 volumes.
- <u>Consultant Team Data</u> Where UDOT data were not available, the consultant team used data collected for this and previous projects in the area. These data were collected in the form of two-way roadway counts or turning movement counts at intersections and are included in Appendix A.

The volumes from these sources were compiled to have a comprehensive volume map of all major roadways. LOS values were assigned to each roadway segment based on the volume and the LOS criteria for roadways that was described previously. The existing traffic volumes are reported as ADT in vpd along with the LOS of each roadway segment in Figure 10.

As shown, many of the major roadways are currently operating at an acceptable LOS (D or better). Roadways that currently lack adequate capacity include Main Street (SR-36) between 600 North and 1400 North, and 1000 North between Main Street (SR-36) and Broadway Avenue.

Intersections

Evening peak hour turning movement count data were collected for several major intersections within the City. Hales Engineering completed evening peak hour turning movement counts between 4:00 and 6:00 p.m. at the following intersections on Wednesday, January 15, 2020 and Thursday, January 16, 2020:

- 2000 North / Main Street (SR-36)
- 1000 North (SR-112) / Main Street (SR-36)
- Broadway Avenue / 1000 North
- 1000 North / Droubay Road

- 970 North / Droubay Road
- Droubay Road / Smelter Road
- Coleman Street / Utah Avenue
- Coleman Street / Vine Street

Volume data at the following intersections were collected from previous traffic studies or from UDOT's Signal Performance Metrics website:

- 2400 North / Main Street (SR-36)
- 2200 North / Main Street (SR-36)
- Aaron Drive / 2000 North
- Berra Boulevard / 2000 North
- 400 West / 2000 North
- 1280 North / Main Street (SR-36)
- 200 West / 1000 North (SR-112)
- 600 West / 1000 North (SR-112)

- Industrial Loop Road / Utah Avenue
- 600 North / Main Street (SR-36)
- 400 North / Main Street (SR-36)
- Utah Avenue / Main Street (SR-36)
- Vine Street / Main Street (SR-36)
- Skyline Drive & 520 South / Main Street (SR-36)
- Commander Boulevard / Main Street (SR-36)

The existing evening peak hour volumes at these major intersections are shown in Figure 11.







An intersection LOS analysis was completed for all major intersections in the City. This analysis was completed for the evening peak hour using Synchro / SimTraffic traffic modeling and simulation software, which follow HCM methodology. The evening peak hour LOS was computed for each study intersection. Multiple runs of SimTraffic were used to provide a statistical evaluation of the interaction between the intersections. LOS results are provided in Table 5 and visually in Figure 12. LOS and queueing reports are shown in Appendix B.

Most of the intersections in Tooele City are currently operating at acceptable levels of service during the evening peak hour. However, the 1000 North / Main Street (SR-36) intersection is currently operating at LOS E, and the Skyline Drive / Main Street (SR-36) intersection is operating at LOS F.

Intersection	Level of Service			
Description	Control	Movement ¹	Aver. Delay (Sec/Veh)	LOS ²
2400 North / Main Street (SR-36)	Signal	-	10.0	А
2200 North / Main Street (SR-36)	EB/WB Stop	EBR	23.6	С
2000 North / Main Street (SR-36)	Signal	-	14.5	В
Aaron Drive / 2000 North	NB/SB Stop	NBT	14.1	b
Berra Boulevard / 2000 North	Roundabout	-	4.1	А
400 West / 2000 North	EB/WB Stop	EBT	5.6	а
1280 North / Main Street (SR-36)	Signal	-	23.2	С
1000 North (SR-112) / Main Street (SR-36)	Signal	-	71.0	E
200 West / 1000 North (SR-112)	Signal	-	13.7	В
600 West / 1000 North (SR-112)		SBT	12.5	b
Industrial Loop Road / Utah Avenue	Signal	-	11.7	В
600 North / Main Street (SR-36)	Signal	-	8.8	А
400 North / Main Street (SR-36)	Signal	-	13.0	В
Utah Avenue / Main Street (SR-36)	Signal	-	16.3	В
Vine Street / Main Street (SR-36)	Signal	-	12.7	В
Skyline Drive & 520 South / Main Street (SR-36)	EB/WB Stop	WBL	>50	f
Commander Boulevard / Main Street (SR-36)	EB/WB Stop	EBL	9.3	а
Broadway Avenue / 1000 North	NB Stop	NBL	12.3	b
1000 North / Droubay Road	EB Stop	EBL	9.0	а
970 North / Droubay Road	WB Stop	WBL	6.1	а
Droubay Road / Smelter Road	NB/SB Stop	NBL	7.1	а
Coleman Street / Utah Avenue	NB/SB Stop	NBL	11.5	b
Coleman Street / Vine Street	NB/SB Stop	NBT	7.9	а

Table 5: Existing Evening Peak Hour Intersection Level of Service

1. Movement indicated for unsignalized intersections where delay and LOS represents worst movement. SBL = Southbound left movement, etc.

2. Uppercase LOS used for signalized, roundabout, and AWSC intersections. Lowercase LOS used for non-AWSC unsignalized intersections.

Source: Hales Engineering, July 2020

It is recommended that the westbound approach of the Skyline Drive & 520 South / Main Street (SR-36) intersection be restriped to accommodate a separate 100-foot right-turn pocket. Additionally, the alignment of Skyline Drive or 520 South will likely need to be changed to match the street across the intersection to prepare for a future signal at some point.

It is also recommended that dual left-turn lanes be constructed on the southbound approach of the 1000 North (SR-112) / Main Street (SR-36) intersection. This will require two receiving lanes on the east leg of the intersection that merge farther down the road. A separate 200-foot right-turn pocket should also be constructed on the eastbound approach. With these mitigations, it is anticipated that the 1000 North (SR-112) / Main Street (SR-36) intersection will operate at an acceptable LOS in existing conditions.

An intersect LOS analysis was only performed for existing conditions, due to some of the unpredictability of turning movement counts in the future. The intersections in the City should be evaluated as time goes on to determine needed improvements.

E. FUTURE CONDITIONS

Future ADT roadway volumes were projected based on the anticipated development in the City. This was done based on future land use plans discussed in Chapter II as well as trip generation, distribution, and assignment. These tasks were completed to determine roadway ADT volumes, which were then translated to turning movement counts.

1. Land Use

It is anticipated that Tooele City will experience rapid growth in the next several years. Because future traffic estimates are dependent upon development projections, Tooele City provided potential development locations, types, and densities that would contribute to a full-build scenario. Since 2000, Tooele City has experienced an average growth of approximately 3.7 percent per year. If this growth rate holds, Tooele City will likely reach full-build conditions around the year 2040.

It is estimated that approximately 12,000 new dwelling units consisting of single-family housing, townhomes, and apartments will be constructed. It was also estimated that 3.5 million square feet of commercial space will be constructed, as well as 1.4 million square feet of industrial space. The new high school was also factored into the analysis. While not factored into the analysis, the extent to which Tooele City will be able to fully develop will depend on water resource availability. A map showing the assumed future land uses is shown in Figure 13.

2. Traffic Volumes

Trip Generation

Based on the proposed future land use conditions, trip generation for future conditions was calculated using trip generation rates published in the Institute of Transportation Engineers (ITE), *Trip Generation*, 10th Edition, 2017.





Tooele City

TRANSPORTATION **MASTER PLAN**

Future Land Use Map

Land Lise Ture	Area	Donsity	Dwelling	1,000 ft ²	Othor	
Lund OSC Type		Density	Units	GFA/GLA	ottier	
ndustrial (LI)	163	10		1630		
ndustrial (LI)	380	10		3800		
rial (I)	196	13.6		2665.6		
al Commercial (GC)	154	8.7		1339.8		
ndustrial (LI)	54	10		540		
rial (I)	136			1855		
ndustrial (LI)	244			3057		
ntial (R1-7)	1774		4320			
oorhood Commercial (NC)	39			528		
ntial (R1-7)	200	5	1000			
al Commercial (GC)	89	8.7		774.3		
ntial (R1-10)	162	3.5	567			
ntial (R1-10)	69	3.5	242			
ntial (R1-10)	34	3.5	119			
al Commercial (GC)	53	8.7		450		
al Commercial (GC)	55	8.7		371		
chool	51				1500 Students	
ntial (MR-8)	6	8	48			
ntial (MR-8)	87	8	696			
al Commercial (GC)	227	10		650		
ndustrial (LI)	227	10		950		
ntial (MR-16)	48	16	768			
ntial (R1-8)	27	4	108			
ntial	9	3.67	33			
ntial	58	5.17	300			
ntial	12	16.58	199			
ntial	20	3.15	63			
ntial	10	2.30	23			

Ν

08/11/2020

UT19-1595

Figure 13





TRANSPORTATION MASTER PLAN

Future Land Use Map

Land Lise Type	Area	Doncity	Dwelling	1,000 ft ²	
Land Ose Type	Acres	Density	Units	GFA/GLA	
Commercial (GC) / Industrial (I)	125			1455	
tial (MR-8)	166	8	1328		
tial	68	4.15	282		
tial	142	2.64	375		
tial	22	2.59	57		
tial	11	3.18	35		
tial	30	3.17	95		
tial	24	2.50	60		
tial	6	14.00	84		
tial	15	4.07	61		
tial (MR-16)	4	16	64		
tial	8	16.50	132		
tial	27	5.04	136		
tial	26	4.23	110		
tial	5	8.80	44		
tial	22	3.95	87		
tial	6	2.17	13		
tial	12	5.17	62		
tial	21	1.43	30		
tial (R1-14)	53	2.5	140		
tial	35	1.89	66		
tial	40	2.70	108		
tial	42	2.12	89		
ngineering. July 2020					



08/11/2020

UT19-1595

Figure 13

Trip Distribution and Assignment

Development traffic is assigned to the roadway network based on the proximity of the developments to major streets, high population densities, and regional trip attractions. Existing travel patterns observed during data collection also provide helpful guidance to establishing these distribution percentages.

Because Tooele City is shifting from its current status as a primarily residential community to one with a mix of commercial and residential land uses, it is likely that a full-build condition will see most of the trips being internal to Tooele City. For a full-build scenario, it was assumed that approximately 15% of trips would be external, with the rest leaving city boundaries to the north, west, and south. The resulting distribution of daily external trips is as follows:

To/From City:

- 93% North
- 2% South
- 5% West

These trip distribution assumptions were used to assign the daily generated traffic along the roadways in Tooele City to create trip assignment for a fully developed condition.

3. No-Build LOS

LOS was analyzed for a scenario in which new roads had been constructed to support full development, but existing roads had not been widened (no-build condition). The exception to this is SR-36, which is planned to be widened to a 7-lane cross-section north of 1000 North (SR-112). According to the Unified Plan, this widening is a Phase 3 project and is scheduled to be completed between 2041 and 2050. All new roads, with the exception of Tooele Boulevard, were assumed to have a 2-lane cross-section. The no-build roadway LOS for future conditions is shown in Figure 14.

4. Roadway Improvements

As Tooele continues to develop, new roads will be constructed to connect developments to arterial streets. Additionally, improvements for future conditions were recommended for roadways that are anticipated to operate at a poor LOS. New roads and recommended improvements on city roadways are listed in Table 6 and shown in Figure 15. The future roadway network with signal locations and roadway functional classification is shown in Figure 16. Future signal locations were assigned based on the current corridor agreements with UDOT and based on the proposed roadway network.

Because Mid Valley Highway is not feasible given current land use, it is more likely that Tooele Boulevard will extend from its current terminus at 700 South to connect with SR-36 just north of the army depot.

SR-36 has plans to be widened to a 4- or 5-lane cross section from Skyline Drive to Stockton. This project is also unfunded, and it was not included in the analysis as projected volumes do not warrant widening at this time.

SR-112 is planned to be widened to a 5-lane cross-section from where it meets Utah Avenue to Grantsville. This project is also currently unfunded but was included in the analysis.

The widening to 5 lanes on 1000 North from Main Street (SR-36) to Droubay road will likely need a variance from the established arterial cross-section due to narrow pavement widths along this segment.



#	Location	Туре	Description	Jurisdiction
1	2000 North: 475 West to SR-112	New Road	Build 3-lane road	City
2	2600 North: 2400 North to 1500 West	New Road	Build 2-lane road	City
3	400 West: 2200 North to 3400 North	New Road	Build 3-lane road	City
4	1500 West: 2000 North to 2600 North	New Road	Build 2-lane road	City
5	3000 North: Main Street (SR-36) to 200 West	New Road	Build 5-lane road	City
6	Copper Canyon Road: Broadway Avenue to 1000 North	New Road	Build 2-lane road	City
7	Tooele Blvd: 400 West to Utah Avenue; 700 South to SR-36	New Road	Build 3-lane road	City
8	520 East: 1400 North to Pine Canyon Road	New Road	Build 2-lane road	City
9	3200 North: Main Street (SR-36) to 1200 West	New Road	Build 2-lane road	City
10	1200 West: 1000 North (SR-112) to 3400 North	New Road	Build 3-lane road	City
11	2800 North: Main Street (SR-36) to 1500 West	New Road	Build 2-lane road	City
12	2600 North: Main Street (SR-36) to 400 West	New Road	Build 2-lane road	City
13	200 West: 2200 North to 3200 North	New Road	Build 2-lane road	City
14	2200 North: 400 West to 1200 West	New Road	Build 2-lane road	City
15	800 West: Rogers Street to 2200 North	New Road	Build 2-lane road	City
16	1300 West: 1000 North to 2600 North	New Road	Build 2-lane road	City
17	1280 North: Existing Terminus to 1310 North	New Road	Build 2-lane road	City
18	Broadway Avenue: 1000 North to 1520 North	New Road	Build 2-lane road	City
19	670 East: 2400 North to 2800 North	New Road	Build 2-lane road	City
20	600 North: 450 West to Coleman St.; Kay Ln. to Tooele Blvd	New Road	Build 2-lane road	City
21	1500 North: 400 West to 1300 West	New Road	Build 2-lane road	City
22	2000 North: Main Street (SR-36) to 200 West	Widening	Widen to 5 lanes	City
23	2000 North: 200 West to 400 West	Widening	Widen to 3 lanes	City
24	Droubay Road: 1000 North to North City Limits	Widening	Widen to 5 lanes	City
25	1000 North: Main Street (SR-36) to 690 East	Widening	Widen to 5 lanes	City
26	Main Street (SR-36): Utah Avenue to North City Limits	Widening	Widen to 7 lanes	UDOT
27	2400 North: Western Terminus to 200 West	New Road	Build 5-lane road	City
28	2400 North: 200 West to 400 West	New Road	Build 3-lane road	City
29	Utah Avenue: Main Street (SR-36) to Tooele Boulevard	Widening	Widen to 3 lanes	City
30	Utah Avenue: Tooele Boulevard to West City Limits	Widening	Widen to 5 lanes	City
31	Droubay Road: Vine Street to 1000 North	Widening	Widen to 3 lanes	City
32	400 West: 1000 North (SR-112) to 1500 North	Widening	Widen to 3 lanes	City
33	1000 North: Main Street (SR-36) to Utah Avenue	Widening	Widen to 7 lanes	UDOT
34	3000 North: 200 West to 400 West	New Road	Build 3-lane road	City
35	Skyline Drive & 520 South / Main Street (SR-36)	Intersection	Realign to fix offset	UDOT
36	1000 North (SR-112) / Main Street (SR-36)	Intersection	Innovative intersection	UDOT
37	Berra Boulevard: 2000 North to 2400 North	New/Widen	Build 3-lane road	City

Table 6: Recommended Improvement Projects





Due to development on the eastern terminus of Skyline Drive, the Skyline Drive & 520 South / Main Street (SR-36) intersection will likely need to be signalized. As a part of this, UDOT will likely require Skyline Drive to be realigned so that it matches 520 South to avoid offset intersections.

Based on projected volumes, 1000 North (SR-112) may need to be widened to a 7-lane cross-section from Main Street (SR-36) to Utah Avenue. It is recommended that UDOT acquire the necessary right-of way, but UDOT may decide to stripe it as a 5-lane road until additional lanes are warranted.

Due to heavy projected volumes at the 1000 North (SR-112) / Main Street (SR-36) intersection, a conventional intersection may not be adequate. UDOT may consider implementing an innovative intersection, such as a continuous flow intersection (CFI).

Currently, Droubay Road is 20 feet wide between Smelter Road and Vine Street. It is recommended that it be widened to a full 3-lane cross-section from Vine Street to 1000 North as Tooele County is planning an Oquirrh Expressway connection on Droubay to the north of the City. Droubay Road will likely need to be widened to 5 lanes north of 1000 North.

While the volumes on most new roads, particularly in the Overlake area, would operate with adequate capacity with a 2-lane cross-section, it is better to construct some roads as clear collectors to incentivize vehicle travel away from local streets. In the project list, roads such as 400 West, 1200 West, and 2000 North are recommended to contain three lanes. This would be especially useful if Tooele City ever decided to annex the area to the north and connect new development there to its roadway system in the Overlake area.

5. Full-Build LOS

With the proposed improvements, most Tooele City roadways are anticipated to operate at LOS D or better, as shown in Figure 17. Main Street (SR-36) may not have adequate capacity to service full demand, even with seven lanes. Additional turn lanes at intersections can also increase capacity as needed. However, when streets become congested, motorists will often choose to take alternative routes. Droubay Road have additional capacity to accommodate traffic rerouting away from SR-36. As discussed, an innovative intersection such as a continuous flow intersection (CFI) may be needed in the future at the 1000 North / Main Street (SR-36) intersection.

F. TRUCK ROUTES

In order to minimize the impact of trucks on most city streets, truck routes have been designated for existing and future roadways. These truck routes are primarily located on arterial roadways, including all state-maintained arterials located in Tooele City. The Tooele City Code outlines the following public streets that are designated as truck routes:



- Main Street (SR-36)
- SR-112
- Tooele Boulevard (1100 West)
- Droubay Road
- Pine Canyon Road

These can be found in Section 10-2-7 of the City Code. Figure 18 shows designated truck routes within Tooele City. Currently, Main Street (SR-36) experiences approximately 5 percent truck traffic at Vine Street.





IV. ALTERNATIVE MODES OF TRANSPORTATION

A. PURPOSE

A transportation system is composed of more than roadways. It also includes provisions for other modes of transportation including public transit, cycling, and walking. The purpose of this section is to discuss these modes and how Tooele City can improve the infrastructure that facilitates these modes.

B. PUBLIC TRANSIT



Public transportation in Tooele City is served by the Utah Transit Authority (UTA). Currently, public transportation within city limits includes bus and flex shuttle service. Figure 19 shows the existing transit routes in Tooele.

The following and existing transit facilities in Tooele City:

- <u>Bus</u> There is one existing UTA bus route that services Tooele City, which is Route 451. Route 451 has five buses leaving Tooele to Salt Lake City from 5:00 to 7:00 a.m. and five buses leaving Salt Lake City to Tooele from 3:45 to 5:45 p.m. All buses have approximately 30 minutes of headway.
- <u>Flex Shuttle</u> There are three existing UTA flex shuttle routes that service Tooele City: Routes F400, F402, and F453. These routes provide comprehensive service to the City of Tooele and Route F453 provides service to and from Salt Lake City. The shuttles follow the assigned route but also change course to pick up riders. These routes vary in headway from 30 minutes to one hour.

Future transit projects could include increasing express service to and from Salt Lake City, potentially during offpeak hours. Internal routes could be added to Tooele City as residential and commercial development continues to increase.

C. ACTIVE TRANSPORTATION



Providing safe and convenient bicycle and pedestrian facilities in Tooele City is critical to promoting active and multi-modal transportation. If citizens have easy access to these facilities, use of the bicycle and pedestrian modes of travel will increase. The City has a few existing routes to facilitate these modes. However, there are also some improvements that could be made to improve the system.

This section is a supplement to the parks and recreation element of the General Plan. The following are the classifications of bike facilities that are found or planned for in Tooele City:

- <u>Multi-Use Trail</u> A separate path designed for non-motorized traffic such as bicycles or pedestrians. Other names for these facilities include "bike paths" or "shared-use paths."
- <u>Bike Lane</u> A facility that includes striped lanes meant for bicycle use within the paved roadway.
- <u>Shared Roadway</u> Facilities designated by signs, striping, and/or directional markers where bicycles share the roadway with motorized traffic.

Tooele City currently has a small network of these bike facilities. Recently, shared roadways were marked along Vine Street between 50 East and 50 West and along 100 East between 700 North and 1000 North. Bike lanes exist along 1000 North between 100 East and Droubay Road. There is a partially-paved trail that starts on Utah Avenue at the west end of the city winds its way up, crossing underneath 1000 North (SR-112) and ends on Sheep Lane. According to the Tooele County Active Transportation Implementation Plan (November 2018), this is part of the priority active transport corridor.

Future bike facilities were identified based primarily on the Tooele County Active Transportation Implementation Plan and UTA's First Mile/Last Mile web map application. Existing and proposed bike facilities are shown in Figure 20. The purpose of the proposed facilities is to connect existing facilities and to plan for facilities in developing areas.



Concepts of typical bike lane and shared roadway treatment cross-sections for the City's use were designed based on the

National Association of City Transportation Officials (NACTO) Urban Bikeway Design Guide and the Utah Manual on Uniform Traffic Control Devices (MUTCD). These concepts are shown in Figure 21. Concepts have been provided for the following proposed treatments:

- 1. <u>Shared Roadway</u> This treatment includes a sharrow in the vehicle travel lane for shared use.
- 2. <u>Conventional Bike Lane</u> This treatment is a dedicated bike lane adjacent to vehicle traffic.
- 3. <u>Buffered Bike Lane</u> This treatment is a bike lane separated by a small buffer from vehicles. This treatment would be ideal for 1000 North.



The location of parks is important when considering bike and pedestrian facilities and this was considered when proposing future facilities. Several parks currently exist in Tooele City, scattered in a variety of places. The Tooele City Parks Map can be found at the following website:

https://tooelecity.org/wp-content/uploads/2014/03/CITY-PARKS-Feb2019.pdf





1 Shared Roadway

- Sharrow only to be used in travel lane, not in bike lane or shoulder

- Minimum placement of 4 feet from curb, or 11 feet with street parking

- Sharrow marking should be centered in lane if speed limit is 25 mph or less

- Not preferred on high-speed, high-volume roadways

- Frequent, visible marking is essential: every 50 - 250 feet - See MUTCD Figure 9C-9 and NACTO Urban Bikeway Design Guide

3 Buffered Bike Lane

Bike lane separated from vehicle lane by striped buffer
Minimum lane width of 4 feet; preferred width of 6 feet
Minimum buffer width of 18 inches

- If buffer is 3 feet wide or greater, diagonal hatching is required (4-inch stripe at 30-45 degrees)

- If a parking lane is provided along bike lane, an additional buffer may be placed between the bike lane and the parking lane

- See MUTCD Figure 9C-3 and NACTO Urban Bikeway Design Guide







Minimum width of 4 feet; preferred width of 6 feet
If bike lane is adjacent to a parking lane, the width should be at least 5 feet

 A bike lane adjacent to a physical barrier must be 2 feet wider than otherwise
 Stripe separating bike lane

and vehicle lane should be 6 to 8 inches wide

- Stripe separating bike lane and parking lane should be 4 inches wide

- See MUTCD Figure 9C-3 and NACTO Urban Bikeway Design Guide











V. SAFETY

A. PURPOSE

The purpose of this chapter is to analyze the safety of the existing road network in Tooele City and to recommend improvements. A few intersections have been identified by the City as areas of concern, which will be discussed in this chapter. In addition, potential traffic calming measures and access management strategies are presented.

B. SAFETY HOTSPOTS

This section addresses safety concerns at existing intersections in Tooele City. Factors including crash history, sight distance, and intersection offset were examined to determine if any mitigations are needed to improve safety. Crash data are protected under 23 USC 409.

- 100 East / 400 North
 - After examining the crash history from 2010 through 2019, it was determined that the number of crashes was at least twice what it was at comparable intersections on 100 East at Vine Street and 1000 North. Angle collisions comprised approximately 70 percent of crashes at this location and one severe crash occurred in which a vehicle occupant suffered a serious injury. 15 percent of crashes occurred in instances in which a driver disregarded the stop signs. Tooele City could consider a hierarchical approach in which increasing measures are implemented, including installing oversized stop signs, striping stop bars and double yellow lines, painting "STOP" on the northbound and southbound approaches, and installing a flashing stop sign. If these measures fail and crash rates remain high, Tooele City may consider installing an all-way stop if volume warrants meet.
- Skyline Drive / Main Street (SR-36)
 - The Skyline Drive / Main Street (SR-36) is offset approximately 100 feet north of the 520 South / Main Street (SR-36) intersection. Intersection offsets are divided into negative offsets and positive offsets. Negative offsets occur where side streets are misaligned in such a way as to generate conflict zones for left-turn movements from major streets. In these cases, opposing left-turning vehicles must occupy or cross the same space while completing their maneuvers. The Skyline Drive / Main Street (SR-36) intersection is at a positive offset, which, while the same left-turn conflicts do not apply, is not desirable. A future signal is planned at this location, and when it is installed, UDOT may require Skyline Drive or 520 South to be realigned to match the opposite street.
- 400 South / Main Street (SR-36)
 - This intersection was identified as a concern due to limits on vertical sight distance. Main Street (SR-36) continues at a 5 percent grade up to a crest vertical curve approximately 500 feet south of the intersection. According to the American Association of State Highway and Transportation Officials (AASHTO) A Policy on Geometric Design of Highways and Streets, the intersection sight

distance (ISD) for a vehicle turning left from a stop should be 445 feet for a design speed of 40 mph. Therefore, the 400 South / Main Street (SR-36) intersection meets this standard.

- Broadway Avenue / 1000 North
 - While the number of crashes at this intersection is not unusual (a total of 22 from 2010 to 2019),
 60 percent of them were front-to-rear collisions. About half of the front-to-rear crashes involved distracted driving.

C. TRAFFIC CALMING

Traffic calming can involve measures to influence behavior or reduce the speed of vehicles on a given road or intersection. These can take the form of physical or non-physical measures, and a few examples are outlined below:

- Speed Enforcement
 - Targeted speed enforcement by local law enforcement agencies can have a significant impact on the prevailing speed in certain locations. Enforcement efforts can be targeted at specific locations at certain times of the day to encourage drivers to comply with the posted speed limit.
- Driver Feedback Signs
 - Driver feedback signs, as shown in Figure 22, can help drivers be more aware of their speed in relation to the posted speed limit. Driver feedback signs can be permanently mounted, temporary installations, or mounted on a trailer. In each case the current speed of the approaching vehicles is detected and shown on a digital display, along with the posted speed limit on a static display.



Figure 22: Driver feedback sign

- Lane Striping
 - Lane striping not only delineates the lane of travel but can also create a narrow feel on the roadway without narrowing the paved surface, as shown in Figure 23. The narrow feel can

encourage some drivers to reduce speeds. Lane striping can also be used to create bicycle lanes, parking spaces, or delineate other uses.



Figure 23: Lane striping

- Signage
 - The placement of signage such as speed limit signs or signs dictating various restrictions can be used for traffic calming purposes. Restriction type signs can include signs prohibiting trucks, turning movements, through movements, or others.
- Speed Legends
 - Speed legends consist of letters and numbers painted on the roadway surface, usually in conjunction with roadside mounted signs, indicating the posted speed limit. For an example, see Figure 24.





Figure 24: Speed legend

- Traffic Circles
 - Traffic circles are raised islands, usually circular in shape, that are constructed in the center of an intersection. The presence of these features requires that vehicles slow down to navigate around the traffic circle. For an example, see Figure 25.



Figure 25: Traffic circle

- Roundabouts
 - A roundabout is like a traffic circle in that it features a circular center island. However, roundabouts are generally much larger and have raised islands on the approaches to divert traffic in the direction of the travel in the roundabout. Vehicles approaching a roundabout yield
to traffic already in the roundabout. Due to the large footprint required to construct a roundabout, this traffic calming measure is generally unfeasible in established neighborhoods.

- Chicanes
 - Chicanes are short curb extensions or "edge islands" that alternate from one side of the road to the other on a roadway segment, as shown in Figure 26. These features required vehicles to "zig zag" slightly as they travel on the roadway, resulting in reduced speeds.



Figure 26: Chicane

- Lateral Shifts
 - Like a chicane, a lateral shift requires traffic to shift to one side, as shown in Figure 27. However, with this countermeasure the lanes only shift once, and it usually occurs near an intersection approach.



Figure 27: Lateral shift

- Bulb-outs / Neckdowns
 - Bulb-outs / neckdowns are curb extensions at intersection approaches, as shown in Figure 28.
 These curb extension narrows the lane at the approach, shortens the curb radius, and results in lower speeds. Bulb-outs also shorten crossing time and distances for pedestrians.



Figure 28: Bulb-out

- Chokers
 - Chokers are curb extensions that occur midblock, as opposed to bulb-outs / neckdowns which occur at intersections. Chokers create a narrowed traveled way, resulting in lower speeds. For an example, see Figure 29.



Figure 29: Choker

- Raised Pedestrian Crossings
 - A raised pedestrian crossing is similar to a speed hump, but they are intended to be wide enough to allow for a pedestrian crossing, as shown in Figure 30. Their function is to slow traffic, decrease volumes and increase visibility of pedestrians.



Figure 30: Raised pedestrian crossing

D. ACCESS MANAGEMENT

Access spacing should vary by functional classification type. As a general rule, the greater the mobility on a roadway, the lower the accessibility. Arterials and major collectors are typically designed as major routes to allow vehicles greater ease of travel with few interruptions. These roads should have limited access points so as not to disrupt flow of traffic. In contrast, local streets experience comparatively little traffic and are designed to allow access to individual properties, which should keep the speed down.

Based on recommendations from the literature and from state-of-the-practice of other municipalities and DOTs, recommendations for minimum signalized, public street, and private access spacing have been compiled and are shown in Table 7.

When possible, streets and accesses should line up with the street or access across the intersection. Offset intersections are categorized as either positive or negative, depending on the orientation. Negative offsets occur when left-turning movements off the major street conflict with each other. This is especially a safety concern where two-way left-turn lanes (TWLTL) exist as these become lanes to move left-turning vehicles out of the through lanes, and they are typically used to slow down over a distance of several feet. Negative offsets create potential for head-on collisions, as shown in Figure 31. Positive offsets are preferred over negative ones, but the ideal option is to have streets line up.

Street Classification	Minimum Signal Spacing (feet) ¹	Minimum Street Spacing (feet) ^{1, 4}	Minimum Commercial Access Spacing (feet) ^{1,4}	Minimum Residential Access Spacing (feet) ¹
Arterial	2,640	660	330 ²	n/a³
Major Collector	1,320	660	330	n/a³
Minor Collector	1,320	330	150	150
Local Street	1,320	150	150	50

Table 7: Access Management Spacing Recommendations

Notes:

1. Measured centerline to centerline

2. Access to an arterial should only be granted when other reasonable access is not available to a collector or local street. If granted, the access should be limited to right-in/right-out only if possible.

3. Residential access should not be granted on arterials or major collectors.

4. Minimum Street Spacing refers to unsignalized intersection spacing; if a traffic signal is present, a traffic impact study should determine if the minimum street spacing should be longer.





Negative Offset

Positive Offset



VI. CONCLUSION

A. OVERVIEW

The purpose of this TMP for Tooele City is to plan for the future multi-modal transportation needs of Tooele City. The following tasks were completed as a part of this TMP:

- The land use and socioeconomic characteristics were reviewed and summarized.
- The functional classification of roadways was redefined.
- Data were collected to summarize the existing traffic volume conditions.
- Future volumes in full-build conditions were projected using development predictions from Tooele City and standard rates published by ITE.
- A LOS analysis was performed to identify existing and future transportation needs.
- Improvements were recommended to support future growth.
- Locations for future signals were identified.
- Truck routes on existing and future roadways were identified.
- The public transit opportunities of the City were discussed.
- Recommendations were given regarding active transportation facilities.
- Several City transportation management strategies were outlined.

B. NEXT STEPS

It is recommended that the following steps be taken to implement the proposed improvements and recommendations of this study:

- Implement this TMP and pursue funding for roadway projects as needed.
- Request that UDOT complete a left-turn study at the 1000 North (SR-112) / Main Street (SR-36) intersection to determine if southbound and other dual left-turn lanes are currently warranted.
- Require that the trip generation for all new developments be calculated to determine its impact on City roadways. With each new development that generates at least 100 peak hour trips, require that a traffic impact study be completed to analyze nearby intersections to determine needed improvements.
- Continue to communicate regularly with UDOT and UTA on current and future roadway and transit improvement needs within the City.

APPENDIX A: Traffic Volume Data Collection



















Tube Count Location	Direction	ADT (vpd)	Posted Speed (mph)	85th % Speed (mph)	% Trucks
	NB	12,802	60	75.6	22.2%
1: SR-36, North of 2400 N	SB	15,198	60	65.7	16.9%
	Both	28,000	60	70.2	19.3%
2: SP 26 South of	NB	2,961	55	63.5	22.9%
2. SR-S0, South of	SB	2,987	55	69.9	33.1%
Commander Bivd	Both	5,948	55	67.9	28.0%
2: 1000 North East of Utah	EB	4,014	50	59.2	18.0%
Avenue / SR-112	WB	4,131	50	60.1	14.4%
	Both	8,145	50	59.6	16.2%

















APPENDIX B: LOS and Queueing Results

Project: Analysis Period: Time Period: Tooele City Transportation Master PlanExisting (2020) BackgroundEvening Peak HourProduct

Intersection: Type:		Main Street (SR-36) & 2400 North Signalized				
Approach	Mexamont	Demand	Volume	e Served	Delay/Ve	h (sec)
Approach	wovement	Volume	Avg	%	Avg	LOS
	L	50	51	101	30.4	С
ND	Т	888	865	97	1.9	Α
IND	R	44	47	106	0.6	Α
	Subtotal	982	963	98	3.3	Α
	L	50	49	98	11.2	В
CD	Т	1,624	1,621	100	8.0	A
55	R	44	44	99	1.7	Α
	Subtotal	1,718	1,714	100	7.9	A
	L	49	49	99	70.0	E
ЕР	Т	4	5	125	76.0	E
ED	R	45	46	102	18.4	В
	Subtotal	98	100	102	46.6	D
	L	104	104	100	70.4	E
\//B	Т	2	4	200	74.1	E
VVD	R	50	51	101	2.2	Α
	Subtotal	156	159	102	48.6	D
Total		2,956	2,936	99	10.0	A

Intersectio Type:	n:	Main Street (SR-36) & 2200 North Unsignalized					
Approach	Maxamant	Demand	Volume	Served	Delay/Ve	h (sec)	
Approach	movement	Volume	Avg	%	Avg	LOS	
	Т	977	959	98	0.6	А	
NB	R	40	41	102	1.3	А	
	Subtotal	1,017	1,000	98	0.6	А	
	Т	1,773	1,772	100	4.3	А	
SB	R	5	4	80	3.6	А	
	Subtotal	1,778	1,776	100	4.3	А	
EB	R	80	77	96	23.6	C	
	Subtotal	80	77	96	23.6	С	
WB	R	5	5	100	1.4	A	
	Subtotal	5	5	100	1.4	A	
Total		2,881	2,858	99	3.5	A	

Project: Analysis Period: Time Period: Tooele City Transportation Master PlanExisting (2020) BackgroundEvening Peak HourProject #: UT19-1595

Intersection: Main Street (SR-36) & 2000 North Type: Signalized Demand Volume Served Delay/Veh (sec) Movement Approach Volume Avg % Avg LOS 236 228 53.8 L 97 D Т 1,069 1,044 0.6 98 Α NB 97 В Subtotal 1,305 1,272 10.1 1,589 1,582 100 12.5 В т R 265 268 101 3.6 Α SB Subtotal 1,854 1,850 100 11.2 В 142 59.8 L 152 93 Ε R 35.0 С 240 240 100 EΒ Subtotal 392 97 D 382 44.2 Total 3,504 3,551 99 14.5 В

Intersection: Aaron Drive/Hospital Access & 2000 North

lype:		Unsignalized				
Annraach	Mexement	Demand	Volume	e Served	Delay/Ve	h (sec)
Approach	wovement	Volume	Avg	%	Avg	LOS
	L	24	24	101	13.3	В
	Т	3	3	100	14.1	В
NB	R	102	102	100	5.3	А
	Subtotal	129	129	100	7.0	А
	L	50	48	96	10.0	А
SB	Т	6	6	96	9.9	А
50	R	16	17	105	3.9	А
	Subtotal	72	71	99	8.5	А
	L	6	5	80	2.6	А
EB	Т	186	179	96	1.1	Α
	R	24	26	109	0.4	А
	Subtotal	216	210	97	1.0	А
	L	201	199	99	4.0	А
WB	Т	253	248	98	1.8	Α
VVD	R	48	50	104	0.6	А
	Subtotal	502	497	99	2.6	А
Total		920	907	99	3.3	A

Project: Analysis Period: Time Period: Tooele City Transportation Master PlanExisting (2020) BackgroundEvening Peak HourProduct

Intersectio Type:	n:	Berra Boulevard & 2000 North Roundabout					
Approach	Mexement	Demand	Volume	e Served	Delay/Ve	h (sec)	
Approach	movement	Volume	Avg	%	Avg	LOS	
	L	8	9	109	2.3	А	
ND	Т	4	5	125	3.0	Α	
IND	R	56	55	99	2.3	Α	
	Subtotal	68	69	101	2.4	Α	
	L	26	23	89	2.6	Α	
CD	Т	5	5	100	2.6	Α	
30	R	7	7	97	2.6	Α	
	Subtotal	38	35	92	2.6	Α	
	L	3	2	67	3.3	А	
ГР	Т	133	130	98	4.7	Α	
ED	R	10	12	117	2.7	Α	
	Subtotal	146	144	99	4.5	Α	
	L	72	70	97	3.5	Α	
	Т	180	177	98	5.2	Α	
VVB	R	40	40	100	3.4	Α	
	Subtotal	292	287	98	4.5	А	
Total		545	535	98	4.1	A	

Intersection: Type:		400 West & 2000 North Unsignalized					
Approach	Mexement	Demand	Volume	e Served	Delay/Ve	eh (sec)	
Approach	movement	Volume	Avg	%	Avg	LOS	
	L	1	0	0			
ND	Т	8	9	109	0.9	А	
IND	R	40	38	95	0.2	А	
	Subtotal	49	47	96	0.3	А	
	L	4	4	100	1.4	А	
C D	Т	10	11	107	0.1	А	
36	R	1	1	100	0.0	А	
	Subtotal	15	16	107	0.4	А	
	L	1	0	0			
ED	Т	2	2	100	5.6	А	
LD	R	1	2	200	1.9	А	
	Subtotal	4	4	100	3.8	А	
	L	63	62	99	4.5	А	
W/B	Т	130	126	97	0.4	А	
VVD	R	3	3	100	1.6	Α	
	Subtotal	196	191	97	1.7	A	
Total		264	258	98	1.5	A	

Project: Analysis Period: Time Period: **Tooele City Transportation Master Plan** Existing (2020) Background Evening Peak Hour

Project #: UT19-1595

Intersection: Type:		Main Street (SR-36) & 1280 North Signalized					
Approach	Mexement	Demand	Volume	e Served	Delay/Ve	h (sec)	
Approach	wovement	Volume	Avg	%	Avg	LOS	
	L	154	154	100	64.0	Е	
ND	Т	1,156	1,143	99	12.3	В	
IND	R	77	68	89	12.0	В	
	Subtotal	1,387	1,365	98	18.1	В	
	L	123	116	94	20.9	С	
CD	Т	1,419	1,407	99	16.1	В	
30	R	272	280	103	8.0	Α	
	Subtotal	1,814	1,803	99	15.2	В	
	L	279	276	99	70.0	E	
ГР	Т	50	49	98	61.4	E	
ED	R	207	214	103	34.2	С	
	Subtotal	536	539	101	55.0	D	
	L	134	133	99	50.7	D	
\//B	Т	30	31	102	43.5	D	
VVB	R	125	118	94	22.1	С	
	Subtotal	289	282	98	37.9	D	
Total		4,026	3,989	99	23.2	С	

Intersectio Type:	Intersection: Type:		Main Street (SR-36) & 1000 North (SR-112)/1000 North Signalized					
Ammunach	Maxamant	Demand	Volume	e Served	Delay/Ve	h (sec)		
Approach	wovement	Volume	Avg	%	Avg	LOS		
	L	167	164	98	66.1	Е		
	Т	1,055	1,046	99	47.3	D		
IND	R	134	133	99	26.7	С		
	Subtotal	1,356	1,343	99	47.6	D		
	L	549	490	89	139.9	F		
CD	Т	1,814	1,684	93	68.5	E		
50	R	87	86	99	51.6	D		
	Subtotal	2,450	2,260	92	83.3	F		
	L	122	121	99	71.9	E		
ED	Т	174	174	100	112.8	F		
LD	R	131	122	93	99.6	F		
	Subtotal	427	417	98	97.1	F		
	L	170	168	99	96.2	F		
	Т	189	190	101	59.5	E		
VD	R	210	211	100	16.4	В		
	Subtotal	569	569	100	54.4	D		
Total		4,802	4,589	96	71.0	E		

Project: Analysis Period: Time Period:

 Tooele City Transportation Master Plan

 Existing (2020) Background

 Evening Peak Hour
 Project #: UT19-1595

Intersection: 200 West & 1000 North (SR-112) Signalized Type: Volume Served Delay/Veh (sec) Demand Approach Movement Volume Avg % Avg LOS 56 100 33.4 L 56 С Т 50 47 94 22.1 С NB R 143 141 99 8.5 Α 98 16.8 В Subtotal 249 244 86 86 100 28.3 С L Т 80 77 96 22.9 С SB R 245 241 98 11.3 В Subtotal 411 404 98 17.1 В 170 173 102 В L 15.1 Т 11.2 В 196 196 100 EΒ R 70 64 91 5.2 Α 433 99 В Subtotal 436 11.9 99 В 160 158 16.8 L Т 190 186 98 7.3 Α WB R 95 96 101 6.5 Α Subtotal 445 440 99 10.5 В 1,540 1,521 99 13.7 В Total

Intersectio Type:	n:	600 West & 1000 North (SR-112) Unsignalized					
Ammenab	Marrana	Demand	Volume	e Served	Delay/Ve	h (sec)	
Approach	wovement	Volume	Avg	%	Avg	LOS	
	L	3	2	67	6.8	A	
ND	Т	9	8	86	10.1	В	
IND	R	44	46	104	4.0	А	
	Subtotal	56	56	100	5.0	Α	
	L	66	65	98	11.9	В	
C P	Т	11	13	116	12.5	В	
36	R	76	77	101	6.2	А	
	Subtotal	153	155	101	9.1	А	
	L	63	65	104	3.1	А	
EB	Т	336	334	99	2.2	А	
LD	R	7	6	83	1.2	А	
	Subtotal	406	405	100	2.3	А	
	L	45	42	93	3.5	А	
WB	Т	302	298	99	3.3	А	
	R	67	69	103	2.4	А	
	Subtotal	414	409	99	3.2	A	
Total		1,030	1,025	99	3.8	A	

Project: Analysis Period: Time Period: Tooele City Transportation Master PlanExisting (2020) BackgroundEvening Peak HourProduct

Intersection: Type:		Industrial Loop Road & Utah Avenue Signalized				
Approach	Mexement	Demand	Volume	e Served	Delay/Ve	h (sec)
Approach	wovement	Volume	Avg	%	Avg	LOS
	L	5	6	114	9.5	А
	Т	267	272	102	7.4	А
IND	R	96	96	100	2.8	Α
	Subtotal	368	374	102	6.3	А
	L	199	199	100	15.8	В
CD	Т	314	320	102	6.8	А
30	R	10	12	120	2.2	А
	Subtotal	523	531	102	10.1	А
	L2	87	86	99	31.9	С
	L	33	32	97	29.5	С
VVD	R	252	255	101	5.6	А
	Subtotal	372	373	100	13.7	В
	L	43	42	98	30.3	С
	R	71	72	101	31.0	С
INE	R2	20	17	86	5.5	А
	Subtotal	134	131	98	27.5	С
Total		1,396	1,409	101	11.7	В

Intersection: Type:		Main Street (SR-36) & 600 North Signalized					
		Demand	Volume	Served	Delay/Ve	h (sec)	
Approach	wovement	Volume	Avg	%	Avg	LOS	
	L	45	43	96	21.8	С	
	Т	1,284	1,285	100	4.9	Α	
IND	R	40	37	92	4.9	А	
	Subtotal	1,369	1,365	100	5.4	А	
	L	62	56	90	20.3	С	
CD	Т	1,983	1,841	93	8.9	Α	
30	R	70	65	93	10.6	В	
	Subtotal	2,115	1,962	93	9.3	А	
	L	53	46	87	39.9	D	
EB	Т	20	18	91	41.9	D	
ED	R	40	42	104	22.5	С	
	Subtotal	113	106	94	33.3	С	
	L	2	2	100	39.6	D	
	Т	30	26	87	40.7	D	
VVD	R	38	40	105	16.3	В	
	Subtotal	70	68	97	26.3	С	
Total		3,667	3,501	95	8.8	A	

Project: Analysis Period: Time Period: Tooele City Transportation Master PlanExisting (2020) BackgroundEvening Peak HourProduct

Intersection: Type:		Main Street (SR-36) & 400 North Signalized					
Approach	Mexamont	Demand Volume Served		Delay/Ve	h (sec)		
Approach	wovement	Volume	Avg	%	Avg	LOS	
	L	26	26	100	16.5	В	
ND	Т	1,249	1,243	100	10.1	В	
IND	R	17	16	96	10.3	В	
	Subtotal	1,292	1,285	99	10.2	В	
	L	115	105	91	16.3	В	
CD	Т	1,202	1,119	93	10.0	A	
56	R	51	49	96	8.8	Α	
	Subtotal	1,368	1,273	93	10.5	В	
	L	91	90	99	40.4	D	
ЕР	Т	23	21	91	34.2	С	
ED	R	81	84	104	13.6	В	
	Subtotal	195	195	100	28.2	С	
WB	L	90	88	98	43.6	D	
	Т	26	27	104	34.6	С	
	R	122	124	102	17.3	В	
	Subtotal	238	239	100	28.9	С	
Total		3,094	2,992	97	13.0	В	

Intersection: Type:		Main Street (SR-36) & Utah Avenue Signalized					
Annroach	N	Demand Volume Served		Delay/Veh (sec)			
Approach	movement	Volume	Avg	%	Avg	LOS	
	L	84	82	97	15.6	В	
	Т	1,058	1,043	99	12.0	В	
ND	R	26	28	109	5.0	А	
	Subtotal	1,168	1,153	99	12.1	В	
	L	111	108	97	17.5	В	
C P	Т	1,216	1,141	94	11.5	В	
36	R	52	47	91	11.3	В	
	Subtotal	1,379	1,296	94	12.0	В	
	L	177	190	107	46.7	D	
FR	Т	41	40	97	36.5	D	
LD	R	161	163	101	21.6	С	
	Subtotal	379	393	104	35.3	D	
	L	50	52	103	40.2	D	
WB	Т	35	34	97	53.8	D	
	R	60	59	99	21.3	С	
	Subtotal	145	145	100	35.7	D	
Total		3,071	2,987	97	16.3	В	

Project: Analysis Period: Time Period: Tooele City Transportation Master PlanExisting (2020) BackgroundEvening Peak HourProduct

Intersection: Type:		Main Street (SR-36) & Vine Street Signalized					
Approach	Mexamont	Demand	Volume	e Served	Delay/Veh (sec)		
Approach	wovement	Volume	Avg	%	Avg	LOS	
	L	46	43	93	15.2	В	
ND	Т	725	718	99	9.3	Α	
IND	R	40	43	107	7.1	Α	
	Subtotal	811	804	99	9.5	Α	
	L	61	58	95	11.6	В	
СD	Т	1,116	1,058	95	7.5	Α	
30	R	82	80	98	7.6	Α	
	Subtotal	1,259	1,196	95	7.7	Α	
	L	147	141	96	40.4	D	
ЕР	Т	38	38	99	46.9	D	
ED	R	94	98	104	20.8	С	
	Subtotal	279	277	99	34.4	С	
WB	L	93	89	96	34.9	С	
	Т	43	42	97	44.1	D	
	R	195	194	99	8.9	Α	
	Subtotal	331	325	98	20.6	С	
Total		2,680	2,602	97	12.7	В	

Intersection:	Main Street (SR-36) & 520 South/Skyline Drive
Type	Unsignalized

Type:		Unsignalized				
Ammanah		Demand	Volume	e Served	Delay/Veh (sec)	
Approach	wovement	Volume	Avg	%	Avg	LOS
	L	7	6	83	7.5	Α
	Т	570	565	99	3.2	Α
IND	R	52	53	101	2.9	Α
	Subtotal	629	624	99	3.2	Α
	L	173	163	94	8.4	Α
СD	Т	985	936	95	2.5	Α
30	R	18	16	90	3.4	Α
	Subtotal	1,176	1,115	95	3.4	Α
	L	12	12	102	38.6	E
EB	Т	1	1	100	51.3	F
LD	R	3	4	133	11.7	В
	Subtotal	16	17	106	33.0	D
WB	L	31	30	96	127.6	F
	Т	3	4	133	105.3	F
	R	110	108	98	69.0	F
	Subtotal	144	142	99	82.4	F
Total		1,965	1,898	97	9.5	A

Project: Analysis Period: Time Period: Tooele City Transportation Master PlanExisting (2020) BackgroundEvening Peak HourProduct

Project #: UT19-1595

Туре:		Unsignalized						
A		, Demand	Volume	Volume Served		Delay/Veh (sec)		
Approach	movement	Volume	Avg	%	Avg	LOS		
	L	165	167	101	9.3	Α		
EB	R	16	19	117	1.5	А		
	Subtotal	181	186	103	8.5	А		
	L	6	5	87	1.6	А		
NE	Т	230	230	100	1.4	A		
	Subtotal	236	235	100	1.4	А		
	Т	574	531	92	3.3	A		
SW	R	16	15	92	5.1	A		
	Subtotal	590	546	93	3.3	А		
Total		1,008	967	96	3.9	A		

Intersection: Main Street (SR-36) & Commander Boulevard

Intersection: Type:		Droubay Road & 1000 North Unsignalized					
Amaraach	Marramant	Demand	Volume	Served	Delay/Veh (sec)		
Approach	movement	Volume	Avg	%	Avg	LOS	
	L	76	74	97	2.6	A	
NB	Т	69	74	107	0.7	А	
	Subtotal	145	148	102	1.7	А	
	Т	195	195	100	0.9	A	
SB	R	31	30	98	0.3	А	
	Subtotal	226	225	100	0.8	A	
	L	44	42	95	9.0	А	
ED	Т	292	260	89	1.5	Α	
ED	R	109	105	96	7.0	Α	
	Subtotal	445	407	91	3.7	А	
Total		816	780	96	2.5	A	
SimTraffic LOS Report

Project: Analysis Period: Time Period: Tooele City Transportation Master PlanExisting (2020) BackgroundEvening Peak HourProj

Project #: UT19-1595

Intersection Type:	n:	Droubay Road Unsignalized	d & 970 North						
Annreach	Mayamant	Demand	Volume	e Served	Delay/Ve	h (sec)			
Approach	wovement	Volume	Avg	%	Avg	LOS			
	Т	122	124	101	1.7	A			
NB	R	6	7	112	1.3	А			
	Subtotal	128	131	102	1.7	А			
	L /	65	67	103	2.2	A			
SB	Т	239	232	97	0.7	А			
	Subtotal	304	299	98	1.0	А			
		9	10	108	6.1	A			
WB	R	23	24	103	2.9	А			
	Subtotal	32	34	106	3.8	А			
Total		465	464	100	1.4	A			

Intersectio Type:	n:	Droubay Road & Smelter Road Unsignalized									
Ammunach	Maxamant	Demand	Volume	e Served	Delay/Veh (sec)						
Approach	wovement	Volume	Avg	%	Avg	LOS					
	L	3	2	67	7.1	Α					
	Т	48	54	112	5.4	Α					
NB	R	10	11	107	3.1	А					
	Subtotal	61	67	110	5.1	А					
	L	10	9	88	6.4	А					
SB	Т	139	135	97	6.7	А					
	R	99	96	97	4.3	Α					
	Subtotal	248	240	97	5.7	Α					
	L	74	70	95	1.8	А					
ED	Т	35	33	94	0.5	А					
LD	R	5	5	100	0.5	А					
	Subtotal	114	108	95	1.3	А					
	L	5	4	80	1.6	А					
\//B	Т	20	21	106	0.2	А					
VV D	R	3	3	100	0.0	А					
	Subtotal	28	28	100	0.4	Α					
Total		452	443	98	4.2	A					

SimTraffic LOS Report

Project: Analysis Period: Time Period: **Tooele City Transportation Master Plan** Existing (2020) Background Evening Peak Hour

Project #: UT19-1595

Intersectio Type:	n:	Coleman Street & Utah Avenue Unsignalized									
Approach	Mexamont	Demand	Volume	e Served	Delay/Veh (sec)						
Approach	wovement	Volume	Avg	%	Avg	LOS					
	L	39	40	103	11.5	В					
	Т	42	42	99	8.2	Α					
NB	R	65	71	109	6.3	Α					
	Subtotal	146	153	105	8.2	Α					
	L	9	9	100	9.2	А					
СD	Т	38	36	95	10.6	В					
30	R	26	26	101	4.4	Α					
	Subtotal	73	71	97	8.2	A					
	L	30	32	107	2.7	А					
ЕР	Т	257	267	104	0.8	А					
ED	R	48	52	108	0.4	А					
	Subtotal	335	351	105	0.9	A					
	L	71	71	100	4.9	А					
W/B	Т	152	146	96	2.1	A					
VV D	R	10	11	110	1.7	A					
	Subtotal	233	228	98	3.0	A					
Total		788	803	102	3.5	A					

Intersectio	n:	Coleman Stre	et & Vine Stre	et		
i ype.		Demand	Volume	e Served	Delay/Ve	h (sec)
Approach	Movement	Volume	Avg	Served Delay/Veh (se % Avg L 86 7.3 106 7.9 106 4.3 105 6.7 86 7.1 103 6.5 102 3.5 101 6.4 97 1.9 105 0.3 103 0.2 107 0.4 96 3.9 95 2.4 102 1.7 96 3.0 101 4.8 4.8 101	LOS	
	L	13	11	86	7.3	A
	Т	120	127	106	7.9	Α
ND	R	62	66	106	4.3	A
	Subtotal	195	204	105	6.7	A
	L	21	18	86	7.1	А
CB	Т	128	132	103	6.5	А
36	R	11	11	102	3.5	А
	Subtotal	160	161	101	6.4	A
	L	7	7	97	1.9	А
FB	Т	60	63	105	0.3	A
LD	R	5	7	133	0.2	A
	Subtotal	72	77	107	0.4	A
	L	83	80	96	3.9	А
WB	Т	78	74	95	2.4	A
,,D	R	16	16	102	1.7	A
	Subtotal	177	170	96	3.0	Α
Total		603	612	101	4.8	A

Interception Colomon Street & Vin

SimTraffic LOS Report

Project: Analysis Period: Time Period: Tooele City Transportation Master PlanExisting (2020) BackgroundEvening Peak HourPro

Project #: UT19-1595

Intersection Type:	n:	Broadway Ave Unsignalized	enue & 1000 N	orth		
Amerooch	Marranant	Demand	Volume	Served	Delay/Ve	h (sec)
Approach	Movement	Volume	Volume Served Avg % 90 101 27 101 117 101 650 92 137 94 787 93 20 96 295 100 315 100 1,219 95	%	Avg	LOS
	L	89	90	101	12.3	В
ND	R	27	27	101	8.4	А
ND	1 1	1				
	Subtotal	116	117	101	11.4	В
	Т	705	650	92	2.4	A
FR	R	145	137	94	1.9	А
<u> </u>	Subtotal	850	787	93	2.3	А
, <u> </u>	L I	21	20	96	5.7	A
WB	Т	295	295	100	1.3	А
VVD	1 1	1				
	Subtotal	316	315	100	1.6	A
1		1				
			L			
Total	1 1	1,281	1,219	95	3.0	A

1: Main Street (SR-36) & 2400 North Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	3.6	0.2	0.1	1.4	0.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	1.0	0.1	0.2	2.1	0.1	0.0	0.4	0.5	0.0	0.2	3.6	0.0
Total Del/Veh (s)	70.0	76.0	18.4	70.4	74.1	2.2	30.4	1.9	0.6	11.2	8.0	1.7
Vehicles Entered	49	5	46	104	4	51	52	865	47	49	1620	44
Vehicles Exited	49	5	46	104	4	51	51	865	47	49	1621	44
Hourly Exit Rate	49	5	46	104	4	51	51	865	47	49	1621	44
Input Volume	49	4	45	104	2	50	50	888	44	50	1624	44
% of Volume	99	125	102	100	200	101	101	97	106	98	100	99

1: Main Street (SR-36) & 2400 North Performance by movement

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.1
Total Delay (hr)	8.2
Total Del/Veh (s)	10.0
Vehicles Entered	2936
Vehicles Exited	2936
Hourly Exit Rate	2936
Input Volume	2956
% of Volume	99

2: Main Street (SR-36) & 2200 North Performance by movement

Movement	EBR	WBR	NBT	NBR	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.5	0.0	0.2	0.0	2.1	0.0	2.8
Total Del/Veh (s)	23.6	1.4	0.6	1.3	4.3	3.6	3.5
Vehicles Entered	77	5	958	41	1772	4	2857
Vehicles Exited	77	5	959	41	1772	4	2858
Hourly Exit Rate	77	5	959	41	1772	4	2858
Input Volume	80	5	977	40	1773	5	2881
% of Volume	96	100	98	102	100	80	99

3: Main Street (SR-36) & 2000 North Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.6	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	2.4	2.4	3.5	0.2	5.5	0.3	14.2
Total Del/Veh (s)	59.8	35.0	53.8	0.6	12.5	3.6	14.5
Vehicles Entered	143	238	230	1042	1581	268	3502
Vehicles Exited	142	240	228	1044	1582	268	3504
Hourly Exit Rate	142	240	228	1044	1582	268	3504
Input Volume	152	240	236	1069	1589	265	3551
% of Volume	93	100	97	98	100	101	99

4: Aaron Drive/Hospital Access & 2000 North Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.1	0.0	0.2	0.1	0.0	0.1	0.0	0.2	0.1	0.0	0.0
Total Del/Veh (s)	2.6	1.1	0.4	4.0	1.8	0.6	13.3	14.1	5.3	10.0	9.9	3.9
Vehicles Entered	5	179	26	199	249	50	24	3	102	48	6	17
Vehicles Exited	5	179	26	199	248	50	24	3	102	48	6	17
Hourly Exit Rate	5	179	26	199	248	50	24	3	102	48	6	17
Input Volume	6	186	24	201	253	48	24	3	102	50	6	16
% of Volume	80	96	109	99	98	104	101	100	100	96	96	105

4: Aaron Drive/Hospital Access & 2000 North Performance by movement

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.0
Total Delay (hr)	0.8
Total Del/Veh (s)	3.3
Vehicles Entered	908
Vehicles Exited	907
Hourly Exit Rate	907
Input Volume	920
% of Volume	99

5: Berra Boulevard & 2000 North Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
Total Delay (hr)	0.0	0.2	0.0	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	3.3	4.7	2.7	3.5	5.2	3.4	2.3	3.0	2.3	2.6	2.6	2.6
Vehicles Entered	2	131	12	70	178	40	9	5	55	23	5	6
Vehicles Exited	2	130	12	70	177	40	9	5	55	23	5	7
Hourly Exit Rate	2	130	12	70	177	40	9	5	55	23	5	7
Input Volume	3	133	10	72	180	40	8	4	56	26	5	7
% of Volume	67	98	117	97	98	100	109	125	99	89	100	97

5: Berra Boulevard & 2000 North Performance by movement

Movement	All		
Denied Delay (hr)	0.0		
Denied Del/Veh (s)	0.1		
Total Delay (hr)	0.6		
Total Del/Veh (s)	4.1		
Vehicles Entered	536		
Vehicles Exited	535		
Hourly Exit Rate	535		
Input Volume	545		
% of Volume	98		

6: 400 West & 2000 North Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)		0.1	0.1	0.0	0.0	0.0		0.1	0.1	3.5	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)		5.6	1.9	4.5	0.4	1.6		0.9	0.2	1.4	0.1	0.0
Vehicles Entered	0	2	2	61	127	4	0	9	38	4	11	1
Vehicles Exited	0	2	2	62	126	3	0	9	38	4	11	1
Hourly Exit Rate	0	2	2	62	126	3	0	9	38	4	11	1
Input Volume	1	2	1	63	130	3	1	8	40	4	10	1
% of Volume	0	100	200	99	97	100	0	109	95	100	107	100

6: 400 West & 2000 North Performance by movement

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.1
Total Delay (hr)	0.1
Total Del/Veh (s)	1.5
Vehicles Entered	259
Vehicles Exited	258
Hourly Exit Rate	258
Input Volume	264
% of Volume	98

7: Main Street (SR-36) & 1280 North Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.5	3.6	3.7	0.0	0.0	0.0	0.2	0.0	0.2
Total Delay (hr)	5.5	0.9	2.1	1.9	0.4	0.7	2.8	3.9	0.2	0.7	6.4	0.6
Total Del/Veh (s)	70.0	61.4	34.2	50.7	43.5	22.1	64.0	12.3	12.0	20.9	16.1	8.0
Vehicles Entered	275	49	216	133	31	119	157	1153	68	116	1405	280
Vehicles Exited	276	49	214	133	31	118	154	1143	68	116	1407	280
Hourly Exit Rate	276	49	214	133	31	118	154	1143	68	116	1407	280
Input Volume	279	50	207	134	30	125	154	1156	77	123	1419	272
% of Volume	99	98	103	99	102	94	100	99	89	94	99	103

7: Main Street (SR-36) & 1280 North Performance by movement

Movement	All
Denied Delay (hr)	0.2
Denied Del/Veh (s)	0.2
Total Delay (hr)	26.1
Total Del/Veh (s)	23.2
Vehicles Entered	4002
Vehicles Exited	3989
Hourly Exit Rate	3989
Input Volume	4026
% of Volume	99

8: Main Street (SR-36) & 1000 North (SR-112)/1000 North Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	8.1	28.3	1.4
Denied Del/Veh (s)	0.2	0.1	0.1	1.6	1.1	0.7	0.3	0.0	0.3	52.9	56.0	55.3
Total Delay (hr)	2.5	5.7	3.6	4.6	3.2	1.0	3.1	14.1	1.0	20.4	33.1	1.3
Total Del/Veh (s)	71.9	112.8	99.6	96.2	59.5	16.4	66.1	47.3	26.7	139.9	68.5	51.6
Vehicles Entered	122	178	125	171	189	211	168	1055	134	517	1715	88
Vehicles Exited	121	174	122	168	190	211	164	1046	133	490	1684	86
Hourly Exit Rate	121	174	122	168	190	211	164	1046	133	490	1684	86
Input Volume	122	174	131	170	189	210	167	1055	134	549	1814	87
% of Volume	99	100	93	99	101	100	98	99	99	89	93	99

8: Main Street (SR-36) & 1000 North (SR-112)/1000 North Performance by movement

Movement	All
Denied Delay (hr)	38.0
Denied Del/Veh (s)	28.4
Total Delay (hr)	93.7
Total Del/Veh (s)	71.0
Vehicles Entered	4673
Vehicles Exited	4589
Hourly Exit Rate	4589
Input Volume	4802
% of Volume	96

9: 200 West & 1000 North (SR-112) Performance by movement

Mayamant	EDI	ГРТ					NDI	NDT		CDI	ОРТ	CDD
wovernent	EDL	EDI	EDK	VVDL	VVDI	WDR	INDL	INDI	INDK	SBL	201	SDK
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.2
Denied Del/Veh (s)	0.0	0.0	0.1	0.0	0.0	0.0	0.5	3.5	3.4	0.6	2.6	2.5
Total Delay (hr)	0.7	0.6	0.1	0.8	0.4	0.2	0.5	0.3	0.3	0.7	0.5	0.8
Total Del/Veh (s)	15.1	11.2	5.2	16.8	7.3	6.5	33.4	22.1	8.5	28.3	22.9	11.3
Vehicles Entered	173	196	65	159	185	97	56	46	142	86	76	241
Vehicles Exited	173	196	64	158	186	96	56	47	141	86	77	241
Hourly Exit Rate	173	196	64	158	186	96	56	47	141	86	77	241
Input Volume	170	196	70	160	190	95	56	50	143	86	80	245
% of Volume	102	100	91	99	98	101	100	94	99	100	96	98

9: 200 West & 1000 North (SR-112) Performance by movement

Movement	All
Denied Delay (hr)	0.4
Denied Del/Veh (s)	1.0
Total Delay (hr)	5.8
Total Del/Veh (s)	13.7
Vehicles Entered	1522
Vehicles Exited	1521
Hourly Exit Rate	1521
Input Volume	1540
% of Volume	99

10: 600 West & 1000 North (SR-112) Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.2	0.3	0.0	0.1	0.0	0.1	0.1	0.1	0.2	0.2	0.2
Total Delay (hr)	0.1	0.2	0.0	0.0	0.3	0.0	0.0	0.0	0.1	0.2	0.0	0.1
Total Del/Veh (s)	3.1	2.2	1.2	3.5	3.3	2.4	6.8	10.1	4.0	11.9	12.5	6.2
Vehicles Entered	65	335	7	42	296	68	3	8	46	65	13	77
Vehicles Exited	65	334	6	42	298	69	2	8	46	65	13	77
Hourly Exit Rate	65	334	6	42	298	69	2	8	46	65	13	77
Input Volume	63	336	7	45	302	67	3	9	44	66	11	76
% of Volume	104	99	83	93	99	103	67	86	104	98	116	101

10: 600 West & 1000 North (SR-112) Performance by movement

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.1
Total Delay (hr)	1.1
Total Del/Veh (s)	3.8
Vehicles Entered	1025
Vehicles Exited	1025
Hourly Exit Rate	1025
Input Volume	1030
% of Volume	99

11: Industrial Loop Road & Utah Avenue Performance by movement

Movement	WBL2	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NER	NER2
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.6	0.1	0.6	3.4	0.4	3.0	1.6	0.6	1.6	3.3	0.3	3.3
Total Delay (hr)	0.8	0.3	0.4	0.0	0.6	0.1	0.9	0.6	0.0	0.4	0.6	0.0
Total Del/Veh (s)	31.9	29.5	5.6	9.5	7.4	2.8	15.8	6.8	2.2	30.3	31.0	5.5
Vehicles Entered	86	32	256	5	271	96	198	318	12	42	72	17
Vehicles Exited	86	32	255	6	272	96	199	320	12	42	72	17
Hourly Exit Rate	86	32	255	6	272	96	199	320	12	42	72	17
Input Volume	87	33	252	5	267	96	199	314	10	43	71	20
% of Volume	99	97	101	114	102	100	100	102	120	98	101	86

11: Industrial Loop Road & Utah Avenue Performance by movement

Movement	All
Denied Delay (hr)	0.4
Denied Del/Veh (s)	1.0
Total Delay (hr)	4.6
Total Del/Veh (s)	11.7
Vehicles Entered	1405
Vehicles Exited	1409
Hourly Exit Rate	1409
Input Volume	1396
% of Volume	101

12: Main Street (SR-36) & 600 North Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.5	0.2	0.3	0.0	0.3	0.2	0.3	1.7	0.1	0.3	4.6	0.2
Total Del/Veh (s)	39.9	41.9	22.5	39.6	40.7	16.3	21.8	4.9	4.9	20.3	8.9	10.6
Vehicles Entered	47	18	42	2	27	40	44	1286	37	57	1852	66
Vehicles Exited	46	18	42	2	26	40	43	1285	37	56	1841	65
Hourly Exit Rate	46	18	42	2	26	40	43	1285	37	56	1841	65
Input Volume	53	20	40	2	30	38	45	1284	40	62	1983	70
% of Volume	87	91	104	100	87	105	96	100	92	90	93	93

12: Main Street (SR-36) & 600 North Performance by movement

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.0
Total Delay (hr)	8.7
Total Del/Veh (s)	8.8
Vehicles Entered	3518
Vehicles Exited	3501
Hourly Exit Rate	3501
Input Volume	3667
% of Volume	95

13: Main Street (SR-36) & 400 North Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.4	3.7	3.8	0.5	3.8	3.7	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	1.0	0.2	0.3	1.1	0.3	0.6	0.1	3.5	0.0	0.5	3.1	0.1
Total Del/Veh (s)	40.4	34.2	13.6	43.6	34.6	17.3	16.5	10.1	10.3	16.3	10.0	8.8
Vehicles Entered	90	22	84	88	27	125	25	1246	16	106	1128	49
Vehicles Exited	90	21	84	88	27	124	26	1243	16	105	1119	49
Hourly Exit Rate	90	21	84	88	27	124	26	1243	16	105	1119	49
Input Volume	91	23	81	90	26	122	26	1249	17	115	1202	51
% of Volume	99	91	104	98	104	102	100	100	96	91	93	96

13: Main Street (SR-36) & 400 North Performance by movement

Movement	All
Denied Delay (hr)	0.3
Denied Del/Veh (s)	0.4
Total Delay (hr)	11.0
Total Del/Veh (s)	13.0
Vehicles Entered	3006
Vehicles Exited	2992
Hourly Exit Rate	2992
Input Volume	3094
% of Volume	97

14: Main Street (SR-36) & Utah Avenue Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.1	0.2	0.4	3.9	3.9	0.4	0.0	0.4	0.0	0.0	0.0
Total Delay (hr)	2.6	0.4	1.0	0.6	0.5	0.4	0.4	3.5	0.0	0.5	3.7	0.1
Total Del/Veh (s)	46.7	36.5	21.6	40.2	53.8	21.3	15.6	12.0	5.0	17.5	11.5	11.3
Vehicles Entered	191	40	164	52	34	59	82	1045	28	108	1140	47
Vehicles Exited	190	40	163	52	34	59	82	1043	28	108	1141	47
Hourly Exit Rate	190	40	163	52	34	59	82	1043	28	108	1141	47
Input Volume	177	41	161	50	35	60	84	1058	26	111	1216	52
% of Volume	107	97	101	103	97	99	97	99	109	97	94	91

14: Main Street (SR-36) & Utah Avenue Performance by movement

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.2
Total Delay (hr)	13.7
Total Del/Veh (s)	16.3
Vehicles Entered	2990
Vehicles Exited	2987
Hourly Exit Rate	2987
Input Volume	3071
% of Volume	97

15: Main Street (SR-36) & Vine Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.5	0.4	0.7	3.7	3.6	0.5	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	1.6	0.5	0.6	0.9	0.5	0.5	0.2	1.9	0.1	0.2	2.2	0.2
Total Del/Veh (s)	40.4	46.9	20.8	34.9	44.1	8.9	15.2	9.3	7.1	11.6	7.5	7.6
Vehicles Entered	142	38	100	89	43	194	43	719	43	57	1061	80
Vehicles Exited	141	38	98	89	42	194	43	718	43	58	1058	80
Hourly Exit Rate	141	38	98	89	42	194	43	718	43	58	1058	80
Input Volume	147	38	94	93	43	195	46	725	40	61	1116	82
% of Volume	96	99	104	96	97	99	93	99	107	95	95	98

15: Main Street (SR-36) & Vine Street Performance by movement

Movement	All
Denied Delay (hr)	0.3
Denied Del/Veh (s)	0.4
Total Delay (hr)	9.3
Total Del/Veh (s)	12.7
Vehicles Entered	2609
Vehicles Exited	2602
Hourly Exit Rate	2602
Input Volume	2680
% of Volume	97

16: Main Street (SR-36) & 520 South/Skyline Drive Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.1	0.2	0.1	0.2	0.5	0.2	0.6	0.0	0.0	0.0
Total Delay (hr)	0.1	0.0	0.0	1.1	0.1	2.1	0.0	0.5	0.0	0.4	0.7	0.0
Total Del/Veh (s)	38.6	51.3	11.7	127.6	105.3	69.0	7.5	3.2	2.9	8.4	2.5	3.4
Vehicles Entered	12	1	4	30	4	109	6	565	53	166	942	16
Vehicles Exited	12	1	4	30	4	108	6	565	53	163	936	16
Hourly Exit Rate	12	1	4	30	4	108	6	565	53	163	936	16
Input Volume	12	1	3	31	3	110	7	570	52	173	985	18
% of Volume	102	100	133	96	133	98	83	99	101	94	95	90

16: Main Street (SR-36) & 520 South/Skyline Drive Performance by movement

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.1
Total Delay (hr)	5.1
Total Del/Veh (s)	9.5
Vehicles Entered	1908
Vehicles Exited	1898
Hourly Exit Rate	1898
Input Volume	1965
% of Volume	97

17: Main Street (SR-36) & Commander Boulevard Performance by movement

Movement	EBL	EBR	NEL	NET	SWT	SWR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	2.3	0.2	0.0	0.0	0.1
Total Delay (hr)	0.4	0.0	0.0	0.1	0.5	0.0	1.1
Total Del/Veh (s)	9.3	1.5	1.6	1.4	3.3	5.1	3.9
Vehicles Entered	167	19	5	230	540	15	976
Vehicles Exited	167	19	5	230	531	15	967
Hourly Exit Rate	167	19	5	230	531	15	967
Input Volume	165	16	6	230	574	16	1008
% of Volume	101	117	87	100	92	92	96

18: Droubay Road & 1000 North Performance by movement

Movement	EBL	EBT	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1
Total Delay (hr)	0.1	0.1	0.2	0.1	0.0	0.0	0.0	0.5
Total Del/Veh (s)	9.0	1.5	7.0	2.6	0.7	0.9	0.3	2.5
Vehicles Entered	42	263	107	73	74	194	30	783
Vehicles Exited	42	260	105	74	74	195	30	780
Hourly Exit Rate	42	260	105	74	74	195	30	780
Input Volume	44	292	109	76	69	195	31	816
% of Volume	95	89	96	97	107	100	98	96

19: Droubay Road & 970 North Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.2	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.1	0.0	0.0	0.0	0.2
Total Del/Veh (s)	6.1	2.9	1.7	1.3	2.2	0.7	1.4
Vehicles Entered	10	24	124	8	67	233	466
Vehicles Exited	10	24	124	7	67	232	464
Hourly Exit Rate	10	24	124	7	67	232	464
Input Volume	9	23	122	6	65	239	465
% of Volume	108	103	101	112	103	97	100

20: Droubay Road & Smelter Road Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.3	0.1
Total Del/Veh (s)	1.8	0.5	0.5	1.6	0.2	0.0	7.1	5.4	3.1	6.4	6.7	4.3
Vehicles Entered	69	33	5	4	21	3	2	54	11	9	137	97
Vehicles Exited	70	33	5	4	21	3	2	54	11	9	135	96
Hourly Exit Rate	70	33	5	4	21	3	2	54	11	9	135	96
Input Volume	74	35	5	5	20	3	3	48	10	10	139	99
% of Volume	95	94	100	80	106	100	67	112	107	88	97	97

20: Droubay Road & Smelter Road Performance by movement

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.1
Total Delay (hr)	0.5
Total Del/Veh (s)	4.2
Vehicles Entered	445
Vehicles Exited	443
Hourly Exit Rate	443
Input Volume	452
% of Volume	98

21: Coleman Street & Utah Avenue Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.7	3.3	3.3	0.1	0.3	0.8	0.0	0.0	0.1	0.1	0.1	0.1
Total Delay (hr)	0.0	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.1	0.0
Total Del/Veh (s)	2.7	0.8	0.4	4.9	2.1	1.7	11.5	8.2	6.3	9.2	10.6	4.4
Vehicles Entered	32	268	52	71	147	11	40	42	71	9	36	26
Vehicles Exited	32	267	52	71	146	11	40	42	71	9	36	26
Hourly Exit Rate	32	267	52	71	146	11	40	42	71	9	36	26
Input Volume	30	257	48	71	152	10	39	42	65	9	38	26
% of Volume	107	104	108	100	96	110	103	99	109	100	95	101

21: Coleman Street & Utah Avenue Performance by movement

Movement	All
Denied Delay (hr)	0.3
Denied Del/Veh (s)	1.4
Total Delay (hr)	0.8
Total Del/Veh (s)	3.5
Vehicles Entered	805
Vehicles Exited	803
Hourly Exit Rate	803
Input Volume	788
% of Volume	102

22: Coleman Street & Vine Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	2.8	0.0	0.0	0.0	0.2	0.2	0.2	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.3	0.1	0.0	0.2	0.0
Total Del/Veh (s)	1.9	0.3	0.2	3.9	2.4	1.7	7.3	7.9	4.3	7.1	6.5	3.5
Vehicles Entered	7	62	7	80	75	16	11	128	66	18	132	11
Vehicles Exited	7	63	7	80	74	16	11	127	66	18	132	11
Hourly Exit Rate	7	63	7	80	74	16	11	127	66	18	132	11
Input Volume	7	60	5	83	78	16	13	120	62	21	128	11
% of Volume	97	105	133	96	95	102	86	106	106	86	103	102

22: Coleman Street & Vine Street Performance by movement

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.1
Total Delay (hr)	0.8
Total Del/Veh (s)	4.8
Vehicles Entered	613
Vehicles Exited	612
Hourly Exit Rate	612
Input Volume	603
% of Volume	101

39: Broadway Avenue & 1000 North Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.2	0.1	0.2	0.1
Total Delay (hr)	0.4	0.1	0.0	0.1	0.3	0.1	1.0
Total Del/Veh (s)	2.4	1.9	5.7	1.3	12.3	8.4	3.0
Vehicles Entered	651	137	20	294	90	27	1219
Vehicles Exited	650	137	20	295	90	27	1219
Hourly Exit Rate	650	137	20	295	90	27	1219
Input Volume	705	145	21	295	89	27	1281
% of Volume	92	94	96	100	101	101	95

Total Zone Performance

Denied Delay (hr)	40.6	
Denied Del/Veh (s)	14.0	
Total Delay (hr)	220.8	
Total Del/Veh (s)	73.4	
Vehicles Entered	10288	
Vehicles Exited	10094	
Hourly Exit Rate	10094	
Input Volume	66645	
% of Volume	15	

Intersection: 1: Main Street (SR-36) & 2400 North

Movement	EB	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	Т	R	L	Т	L	Т	Т	R	L	Т	T
Maximum Queue (ft)	98	50	82	178	47	105	60	74	15	62	295	280
Average Queue (ft)	46	6	29	95	4	31	11	20	2	21	109	116
95th Queue (ft)	89	29	63	157	26	73	39	55	9	50	218	228
Link Distance (ft)		1091	1091		2348		1234	1234	1234		926	926
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	125			145		540				500		
Storage Blk Time (%)	0			3	0							0
Queuing Penalty (veh)	0			2	0							0

Intersection: 1: Main Street (SR-36) & 2400 North

Movement	SB
Directions Served	R
Maximum Queue (ft)	40
Average Queue (ft)	6
95th Queue (ft)	27
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	335
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 2: Main Street (SR-36) & 2200 North

Movement	EB	B33	SB
Directions Served	R	Т	TR
Maximum Queue (ft)	117	2	4
Average Queue (ft)	46	0	0
95th Queue (ft)	89	2	4
Link Distance (ft)	388	882	1234
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Main Street (SR-36) & 2000 North

Movement	EB	EB	EB	NB	NB	SB	SB	SB	
Directions Served	L	L	R	L	L	Т	Т	R	
Maximum Queue (ft)	182	274	270	281	149	353	372	74	
Average Queue (ft)	54	94	131	149	40	160	169	30	
95th Queue (ft)	121	193	226	245	103	297	322	61	
Link Distance (ft)		382				882	882		
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	245		175	300	300			400	
Storage Blk Time (%)	0	1	5	0			0		
Queuing Penalty (veh)	0	2	8	2			1		

Intersection: 4: Aaron Drive/Hospital Access & 2000 North

Movement	EB	EB	WB	WB	NB	SB	SB
Directions Served	L	TR	L	Т	LTR	L	TR
Maximum Queue (ft)	13	2	79	39	99	60	36
Average Queue (ft)	1	0	19	1	46	21	11
95th Queue (ft)	8	2	53	23	79	47	29
Link Distance (ft)		1313		382	641	155	155
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	155		60				
Storage Blk Time (%)			0	0			
Queuing Penalty (veh)			1	0			

Intersection: 5: Berra Boulevard & 2000 North

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	47	40	51	42
Average Queue (ft)	9	4	7	6
95th Queue (ft)	34	22	31	28
Link Distance (ft)	2513	1313	1784	1277
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: 400 West & 2000 North

Movement	EB	WB	WB	SB
Directions Served	LTR	L	TR	L
Maximum Queue (ft)	30	58	31	6
Average Queue (ft)	3	28	6	0
95th Queue (ft)	19	52	25	4
Link Distance (ft)	658		2513	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		80		125
Storage Blk Time (%)		0		
Queuing Penalty (veh)		0		

Intersection: 7: Main Street (SR-36) & 1280 North

Movement	EB	EB	EB	B37	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	Т	R	Т	L	TR	L	Т	TR	L	Т	T
Maximum Queue (ft)	130	568	225	92	271	175	227	267	270	222	467	471
Average Queue (ft)	123	298	155	8	121	85	105	85	85	60	178	177
95th Queue (ft)	143	569	276	61	224	169	192	208	211	138	355	363
Link Distance (ft)		536		399	704			1957	1957		1102	1102
Upstream Blk Time (%)		3										
Queuing Penalty (veh)		0										
Storage Bay Dist (ft)	70		125			100	100			105		
Storage Blk Time (%)	61	5	5		19	7	22	3		1	20	18
Queuing Penalty (veh)	158	23	17		29	10	99	5		7	24	50

Intersection: 7: Main Street (SR-36) & 1280 North

Movement	SB
Directions Served	R
Maximum Queue (ft)	243
Average Queue (ft)	64
95th Queue (ft)	180
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	105
Storage Blk Time (%)	0
Queuing Penalty (veh)	3

Intersection: 8: Main Street (SR-36) & 1000 North (SR-112)/1000 North

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	Т	R	L	Т	Т	R	L	Т	Т
Maximum Queue (ft)	401	668	278	412	185	419	592	593	240	415	1453	1449
Average Queue (ft)	156	335	167	180	75	187	370	381	139	396	953	932
95th Queue (ft)	390	652	280	338	145	394	540	555	308	479	1556	1556
Link Distance (ft)		1218		698	698		3047	3047			1957	1957
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	305		140			280			100	275		
Storage Blk Time (%)		25	33	16		1	20	47	0	56	20	38
Queuing Penalty (veh)		31	62	28		3	34	63	2	508	110	33

Intersection: 8: Main Street (SR-36) & 1000 North (SR-112)/1000 North

Movement	SB
Directions Served	R
Maximum Queue (ft)	240
Average Queue (ft)	63
95th Queue (ft)	215
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	100
Storage Blk Time (%)	0
Queuing Penalty (veh)	0

Intersection: 9: 200 West & 1000 North (SR-112)

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	155	153	159	164	100	131	217	195
Average Queue (ft)	63	58	69	55	42	65	61	104
95th Queue (ft)	120	118	131	122	85	114	140	182
Link Distance (ft)	3902			1218	838		1174	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		305	300			150		155
Storage Blk Time (%)				0		0	0	2
Queuing Penalty (veh)				0		0	0	2

Intersection: 10: 600 West & 1000 North (SR-112)

Movement	EB	WB	WB	NB	SB
Directions Served	L	L	TR	LTR	LTR
Maximum Queue (ft)	42	31	2	59	106
Average Queue (ft)	13	8	0	28	47
95th Queue (ft)	37	28	2	49	84
Link Distance (ft)	4712	3902		1546	646
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			310		
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 11: Industrial Loop Road & Utah Avenue

Movement	WB	WB	WB	NB	NB	NB	SB	SB	SB	NE	NE	NE
Directions Served	<	L	R	L	Т	R	L	Т	R	L	R	>
Maximum Queue (ft)	135	85	111	30	134	58	217	119	34	89	133	53
Average Queue (ft)	57	23	55	3	46	15	69	44	3	31	45	10
95th Queue (ft)	110	61	86	18	105	41	150	97	18	69	98	34
Link Distance (ft)		2297			2318			3414			1465	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225		500	130		290	550		200	150		150
Storage Blk Time (%)					0						0	
Queuing Penalty (veh)					0						0	

Intersection: 12: Main Street (SR-36) & 600 North

Movement	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LTR	LTR	L	Т	TR	L	Т	TR
Maximum Queue (ft)	167	120	85	149	157	89	222	247
Average Queue (ft)	71	45	28	48	63	31	69	76
95th Queue (ft)	134	91	64	111	125	70	164	174
Link Distance (ft)	770	765		1398	1398		3047	3047
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			150			150		
Storage Blk Time (%)				0			1	
Queuing Penalty (veh)				0			0	

Intersection: 13: Main Street (SR-36) & 400 North

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	
Directions Served	L	TR	L	TR	L	Т	TR	L	Т	TR	
Maximum Queue (ft)	168	139	193	171	59	288	304	144	318	342	
Average Queue (ft)	72	52	76	69	17	118	134	50	122	142	
95th Queue (ft)	134	102	146	127	47	234	251	102	252	274	
Link Distance (ft)	768		755			1489	1489		1398	1398	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)		100		100	150			150			
Storage Blk Time (%)	5	1	6	4		4		0	3		
Queuing Penalty (veh)	5	1	9	3		1		0	4		

Intersection: 14: Main Street (SR-36) & Utah Avenue

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	
Directions Served	L	TR	L	TR	L	Т	Т	R	L	Т	TR	
Maximum Queue (ft)	347	268	139	137	113	276	310	120	175	317	326	
Average Queue (ft)	137	100	44	52	40	120	137	12	53	126	142	
95th Queue (ft)	260	193	108	103	84	223	248	62	115	261	281	
Link Distance (ft)	4286		753			1259	1259			1489	1489	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)		185		100	190			100	150			
Storage Blk Time (%)	5	1	2	2		1	14		0	4		
Queuing Penalty (veh)	10	1	2	1		1	4		0	5		

Intersection: 15: Main Street (SR-36) & Vine Street

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB	
Directions Served	L	TR	L	Т	R	L	Т	TR	L	Т	TR	
Maximum Queue (ft)	264	195	174	136	124	66	178	189	68	152	167	
Average Queue (ft)	107	76	63	37	61	24	81	87	22	54	66	
95th Queue (ft)	197	148	125	88	103	54	150	158	50	119	137	
Link Distance (ft)	4281		759				3451	3451		1259	1259	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)		100		100	100	150			200			
Storage Blk Time (%)	15	6	2	1	2		1			0		
Queuing Penalty (veh)	20	9	5	1	2		0			0		

Intersection: 16: Main Street (SR-36) & 520 South/Skyline Drive

Movement	EB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LTR	LTR	L	Т	TR	L	Т	TR
Maximum Queue (ft)	54	356	24	5	2	101	18	10
Average Queue (ft)	16	133	3	0	0	40	1	0
95th Queue (ft)	46	324	15	4	2	79	8	5
Link Distance (ft)	623	1201		4814			3451	3451
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			100		100	100		
Storage Blk Time (%)						0		
Queuing Penalty (veh)						0		

Intersection: 17: Main Street (SR-36) & Commander Boulevard

Movement	EB	EB	NE
Directions Served	L	R	L
Maximum Queue (ft)	128	3	22
Average Queue (ft)	56	0	1
95th Queue (ft)	102	3	11
Link Distance (ft)	1946	1946	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			500
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 18: Droubay Road & 1000 North

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	101	53
Average Queue (ft)	52	14
95th Queue (ft)	85	44
Link Distance (ft)	3797	168
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 19: Droubay Road & 970 North

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	47	59
Average Queue (ft)	17	9
95th Queue (ft)	39	37
Link Distance (ft)	1895	168
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 20: Droubay Road & Smelter Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	34	2	61	80
Average Queue (ft)	3	0	29	46
95th Queue (ft)	21	2	50	71
Link Distance (ft)	1500	1673	1053	3657
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 21: Coleman Street & Utah Avenue

Movement	EB	EB	WB	NB	NB	SB
Directions Served	L	TR	L	L	TR	LTR
Maximum Queue (ft)	28	18	49	67	81	71
Average Queue (ft)	4	1	17	25	39	28
95th Queue (ft)	20	8	44	56	68	54
Link Distance (ft)	911		4286	1282		1033
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		110			70	
Storage Blk Time (%)				0	1	
Queuing Penalty (veh)				0	0	

Intersection: 22: Coleman Street & Vine Street

Movement	EB	EB	WB	WB	NB	SB
Directions Served	LT	R	LT	R	LTR	LTR
Maximum Queue (ft)	18	2	53	4	96	68
Average Queue (ft)	1	0	9	0	45	34
95th Queue (ft)	9	2	35	4	77	57
Link Distance (ft)	1091		4281		1055	1282
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		100		100		
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 39: Broadway Avenue & 1000 North

EB	WB	NB
TR	LT	LR
9	94	102
0	14	49
5	56	81
1917	3797	2171
	EB TR 9 0 5 1917	EB WB TR LT 9 94 0 14 5 56 1917 3797

Zone Summary

Zone wide Queuing Penalty: 1404

SimTraffic Queueing Report Project: Tooele City Transportation Master Plan Analysis: Existing (2020) Background

Time Period: Evening Peak Hour 95th Percentile Queue Length (feet)

	NB							NE		SB						EB						WB								B3 3	B3 7		
Intersection	L	LR	LT	LTR	R	Т	TR	>	L	R	L	LT	LTR	R	Т	TR	L	LR	LT	LTR	R	Т	TR	<	L	LR	LT	LTR	R	Т	TR	Т	Т
1: Main Street (SR-36) & 2400 North	73				9	47					50			27	223		89				63	29			157					26			
10: 600 West & 1000 North (SR-112)				49									84				37								28						2		
11: Industrial Loop Road & Utah Avenue	18				41	105		34	69	98	150			18	97									110	61				86				
12: Main Street (SR-36) & 600 North	64					111	125				70				164	174				134								91					
13: Main Street (SR-36) & 400 North	47					234	251				102				252	274	134						102		146						127		
14: Main Street (SR-36) & Utah Avenue	84				62	236					115				261	281	260						193		108						103		
15: Main Street (SR-36) & Vine Street	54					150	158				50				119	137	197						148		125				103	88			
16: Main Street (SR-36) & 520 South/Skyline Drive	15					4	2				79				8	5				46								324					
17: Main Street (SR-36) & Commander Boulevard									11								102				3												
18: Droubay Road & 1000 North			44															85															
19: Droubay Road & 970 North												37														39							
2: Main Street (SR-36) & 2200 North																4					89											2	
20: Droubay Road & Smelter Road				50									71							21								2					
21: Coleman Street & Utah Avenue	56						68						54				20						8		44								
22: Coleman Street & Vine Street				77									57						9		2						35		4				
23: Broadway Avenue & 1000 North		81																					5				56						
3: Main Street (SR-36) & 2000 North	174													61	310		157				226												
4: Aaron Drive/Hospital Access & 2000 North				79							47					29	8						2		53					23			
5: Berra Boulevard & 2000 North				31									28							34								22					
6: 400 West & 2000 North											4									19					52						25		
7: Main Street (SR-36) & 1280 North	192					208	211				138			180	359		143				276	569			224						169		61
8: Main Street (SR-36) & 1000 North (SR-112)/1000 North	394				308	548					479			215	1,556		390						652		280				145	338			
9: 200 West & 1000 North (SR-112)	85						114				140					182	120						118		131						122		

HALES DENGINEERING

Project #: UT19-1595