

**2.7. TRAFFIC**

2.7.1. ACCESS MANAGEMENT

A. Corner Spacing

1. Access distance from corners is as given in the following table:

Table 2.7.1 Access Distance from Corner According to Facility Type.

| Facility Type         | Public Street Spacing | Required Sight Distance | Minimum Driveway Spacing                            |                     |
|-----------------------|-----------------------|-------------------------|---|---------------------|
|                       |                       |                         | Same Side Upstream, Downstream, & Opposing Upstream | Opposing Downstream |
| Major Arterial        | 1320'                 | 500'                    | 250'  | 150'                |
| Minor Arterial        | 660'                  | 500'                    | 200'  | 150'                |
| Major Collector       | 660'                  | 400'                    | 175'  | 150'                |
| Minor Collector       | 250'                  | 400'                    | 150'  | 125'                |
| Residential Collector | 250'                  | 300'                    | 100'  | 75'                 |
| Residential Standard  | 150'                  | 300'                    | 50'   | 50'                 |

Notes:

1. All access is determined by City and distances shown may be adjusted on a case-by-case basis if warranted by specific traffic conditions.
2. Measurement of public streets spacing shall be from centerline of right-of-way to centerline of right-of-way.
3. Measurement of driveway spacing shall be from centerline of proposed access to corner/edge of nearest driveway or road.
4. When two or more accesses serve the same multi-family/commercial development, distance between shall be at least 300 feet on Arterials and Major Collectors and 200 feet for all other roads.
5. When non-residential driveways cannot be separated with the spacing shown above they should be combined into a shared access with necessary access easements and agreements.

2. Access to corner lots should be from the lesser-classified road at the greatest distance possible from the intersection, and should not be less than the distances shown in the table above.
3. Accesses should be aligned directly with existing access on opposite side of parcel.
4. Where it is not feasible to align driveways, major driveways on opposite side of the street should not be offset less than 150 feet.
5. Where commercial lots are not large enough to allow access on opposite sides of the street to be aligned, the center of driveways not in alignment should be offset a minimum of 250 feet on all collector streets, and 300 feet on all major and arterial streets.
6. Greater distances may be required if needed for left-turn storage lanes.
7. Where two or more accesses serve the same or adjacent non-single family residential development, the minimum distance between the centerlines of accesses should be at

least 200 feet on streets with design speeds below 30 mph and 300 feet on streets with design speeds above 30 mph.

8. If adjacent driveways cannot be separated by the distances outlined, they should be combined into a single joint access.
9. At least 300 feet of clear sight distance shall be provided for drivers entering or leaving all accesses onto local streets; 400 feet for collector streets; and 500 feet for arterial streets.

B. Number of accesses per parcel:

1. Accesses may be limited to one per commercial or multifamily residential development.
2. Additional accesses may be approved by the City upon completion of a circulation plan or Traffic Impact Study provided to the City indicating that more than one access is required to adequately handle the developments traffic volumes and further indicating that the additional access will not be detrimental to traffic flow on the adjacent street network or to meet emergency access requirements.
3. Number of accesses shall not exceed two for frontage of 300 feet or less, three for 300 to 600 feet of frontage and a maximum of three accesses for frontage greater than 600 feet, as approved by the City.
4. Where multiple parcels are consolidated, accesses shall also be consolidated according to City design and spacing standards.
5. Temporary access may be granted to undeveloped property prior to completion of a final development plan if access is needed for construction or preliminary site access. Temporary accesses are subject to removal, relocation, or redesign after final development plan approval.
6. Shared access between adjacent parcels shall be required where possible.

C. Single Family Residential Access:

1. New single family residential developments and subdivisions shall not have driveway access on arterials and major collectors.
2. Minor subdivisions or “flag lots” are discouraged along arterials and major collectors.
3. Accesses for these minor subdivisions are under the same criteria for design and spacing listed in the table above.
4. When two or more accesses serve adjacent single-family residential property, the minimum distance between the nearest points of the two accesses shall be at least 12 feet.

5. For corner residential lots, one access on each frontage may be permitted if it is determined by the City that two driveways are needed to provide safe access for traffic entering and leaving the lot because of site distance and geometric design considerations.
6. Double frontage residential lots will only have one access onto the lesser classified roadway unless approved by the City.
7. Circular driveways are considered one access.
8. If a lot has a circular driveway then only a maximum of one more additional access may be granted.
9. Single-family residential driveways shall have a maximum curb cut of 40 feet.
10. Circular driveways should have a maximum curb cut of 20 feet per side.

D. Right-turn Deceleration lanes:

1. Minimum requirements for installation of a right-turn lane on a rural two-lane road that is 40 mph or less is 50 vehicles per hour (vph).
2. For greater than 40 mph, right-turn traffic of 25 vph or more would require a right-turn deceleration lane.
3. Taper lengths and storage lengths of these lanes shall comply with AASHTO's Policy on Geometric Design of Highways and Streets.

E. Based upon safety and operational studies, median treatments such as Two-Way-Left-Turn Lanes (TWLTL) and Raised non-Transferable medians may be required on major collector and arterial streets, as determined by the City and the Transportation Master Plan.

F. New access locations created by development shall be unified whenever possible to create the fewest number of access points onto arterials or major collectors. Joint use agreements shall be required where necessary.

### 2.7.2. TRAFFIC IMPACT STUDIES

A. Development conditions which trigger Traffic Impact Study (TIS) requirement:

1. TIS is required if development will generate new peak hour trips (as determined by the latest edition of ITE *Trip Generation Manual*) during the morning, afternoon, or Saturday peak hour as follows:

*Ivins City Standard Specifications for Design and Construction*  
Part 2 Engineering and Design Standards

| Category | Peak Hour Trips<br>Generated by<br>Development |
|----------|--|
| I        | 100 to 500                                     |
| II       | 500 to 1,000                                   |
| III      | More than 1,000                                |

2. Category I TIS may also be required by the City for any specific traffic problems or concerns such as:

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

B. Scope of each TIS category is as follows:

| Category | TIS Period Evaluations      |                                  |                           |   |  | Scope of Study     |                                   |  |  |   |
|----------|-----------------------------|----------------------------------|---------------------------|---|--|--------------------|-----------------------------------|--|--|---|
|          | Opening Year of Development | Year of Completion of Each Phase | Completion of Development | Five Years after the development's completion | 10 years after the developments completion | Site Access Drives | Affected Signalized Intersections | Affected major unsignalized street intersections | Signalized Intersections within 1/2 mile | Unsignalized major street intersections within 1/2 mile |
| I        | x                           |                                  | x                         |   |  | x                  | x                                 | x  |  |   |
| II       | x                           | x                                | x                         | x   |  | x                  | x                                 | x  | x  | x   |
| III      | x                           | x                                | x                         | x   | x  | x                  | x                                 | x  | x  | x   |

C. Initial TIS determination process:

1. Developer, or their agent, estimates number of trips
2. City provides concurrence or modifies estimate. City makes recommendation on category of TIS.

3. Developer, or their agent, submits a draft table of contents for the TIS, a map of intersections to be analyzed, and a draft of the proposed trip distribution for site traffic.
4. City provides concurrence or recommends modifications to the submittal. Upon approval, actual TIS work may begin.

D. Analysis and Approach Methods:

1. TIS must be conducted and prepared under the direction of a Professional Engineer, licensed in the State of Utah.
2. The extent of the study area may be either enlarged or decreased, depending on special conditions as determined by the City.
3. Both the morning and afternoon weekday peak hours should be analyzed, unless the proposed project is expected to generate no trips, or a very low number of trips, during either the morning or evening peak periods. If this is the case, the requirement to analyze one or both of these periods may be waived by the City.
4. Where the peak traffic hour in the study area occurs during a different time period than the normal morning or afternoon peak travel periods (for example mid-day), or occurs on a weekend, or if the proposed project has unusual peaking characteristics, these additional peak hours should also be analyzed.
5. When directed by the City, traffic volumes for the analysis hours should be adjusted for the peak season, in cases where seasonal traffic data is available.

E. All data should be collected in accordance with the latest edition of the ITE Manual of Traffic Engineering Studies:

1. **Turning Movement Counts:** Manual turning movement counts should be obtained for all existing cross-street intersections to be analyzed during the morning, afternoon and Saturday peak periods (as applicable). Turning movement counts may be required during other periods as directed by the City. Turning movement counts may be extrapolated from existing turning movement counts, no more than two years old, with the concurrence of the City.
2. **Daily Traffic Volumes:** The current and projected daily traffic volumes should be presented in the report. If available, daily count data from the local agencies may be extrapolated to a maximum of two years with the concurrence of the City. Where daily count data is not available, mechanical counts will be required at locations agreed upon by the City.
3. **Roadway and Intersection Geometrics:** Roadway geometric information should be obtained. This includes, but is not limited to, roadway width, number of lanes, turning lanes, vertical grade, location of nearby driveways, and lane configuration at intersections.

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

F. Trip Generation:

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

G. Trip Distribution and Assignment:

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

an annual growth rate and "on-line" developments, should be used to forecast the future traffic volumes.

7. The site-generated traffic should be assigned to the street network in the study area based on the approved trip distribution percentages. The site traffic should be combined with the forecasted traffic volumes to show the total traffic conditions estimated at development completion.
8. A "figure" should be prepared to represent the site specific traffic impacts to existing conditions: It must show:
  - Daily and peak period turning movement volumes for each traffic study intersection.
  - Existing base-line volumes of the street network.
  - Volumes of the street network with the site generated traffic added.

#### H. Capacity Analysis

1. Level of service (LOS) shall be computed for signalized and unsignalized intersections in accordance with the latest edition of the Highway Capacity Manual.
2. The intersection LOS should be calculated for each of the following conditions (if applicable):
  - Existing peak hour traffic volumes ("figure" required).
  - Existing peak hour traffic volumes including site-generated traffic ("figure" required).
  - Future traffic volumes not including site traffic ("figure" required).
  - Future traffic volumes including site traffic ("figure" required).
  - LOS results for each traffic volume scenario ("table" required).
3. The LOS table should include LOS results for AM, PM and Saturday peak periods, if applicable.
4. The table shall show LOS conditions with corresponding vehicle delays for signalized intersections, and LOS conditions for the critical movements at unsignalized intersections.
5. For signalized intersections, the LOS conditions and average vehicle delay shall be provided for each approach and the intersection as a whole.
6. The incremental increases in site traffic from each phase, where applicable, should be included in the LOS analysis for each preceding year of development completion.
7. A "figure" will be required for each horizon year of phased development.

I. Traffic Signal and Roundabout Studies

1. An intersection needs study should be conducted for all new proposed roundabouts and/or traffic signals for the base year. If the warrants are not met for the base year, they should be evaluated for each year in the five-year horizon. Traffic signal and roundabout needs studies should be conducted by a method pre-approved by the City.
2. Speed Considerations: Vehicle speed is used to estimate safe stopping and cross corner sight distances. In general, the posted speed limit represents the 85th percentile speed. The design speed of the roadway should be used to calculate safe stopping and cross corner sight distances.
3. Improvement Analysis: The roadways and intersections within the study area should be analyzed, with and without the proposed development to identify any projected impacts in regard to LOS and safety.
4. Where the highway will operate at LOS C or better without the development, the traffic impact of the development on the roadways and intersections within the study area should be mitigated to LOS D for arterial and collector streets and LOS C on all other streets during peak hours of travel. Mitigation to LOS D on other streets may be acceptable with the concurrence of the City.

- J. TIS report format shall conform to the format given in Appendix J. Deviations from this format must receive prior approval of the City