Technical Memorandum on Municipal Speed Limits

**Background**
City engineering staff has been tasked with evaluating existing City speed limits and exploring options for modifying speed limits on City streets. Staff has identified two bases for accomplishing this: Utah Code and the Manual on Uniform Traffic Control Devices (MUTCD). Taken together, these texts provide guidance and requirements for establishing speed limits, and will be discussed and referenced in this memorandum. Some additional guidance is provided by Utah Department of Transportation (UDOT) and Federal Highway Administration (FHWA).

**Regulatory Criteria**
Subsection 2B.13(06) of the MUTCD provides two general paths for the establishment of speed limits:

> In general, the maximum speed limits applicable to rural and urban roads are established:
> A. Statutorily – a maximum speed limit applicable to a particular class of road, such as freeways or city streets, that is established by State law; or
> B. As altered speed zones – based on engineering studies.

When setting speed limits on individual streets, paragraph B governs, and an engineering study is required. Section {41-6a-603} of the Utah Code specifically requires this for municipalities:

1. A county or municipality may determine the reasonable and safe speed limit for each highway1 or section of highway under its jurisdiction as specified under Title 72, Chapter 3, Highway Jurisdiction and Classification Act.
2. Each speed limit shall be established in accordance with the provisions of Subsections 41-6a-602(1), (2), (3), and (5).

Title 72, Chapter 3 referenced in Subsection (1) defines and delineates jurisdiction for various highway classes, including city streets (class C roads), and will not be discussed further in this memorandum. Subsection (2) invokes four other subsections, two of which are relevant to this discussion. These are Subsections 41-6a-602(1) and (2), which set the basis for determining speed limits on state highways, but applies to city streets by reference:

1. (a) The Department of Transportation shall determine the reasonable and safe speed limit for each highway or section of highway under its jurisdiction.
   (b) For each highway or section of highway, each speed limit shall be based on a traffic engineering and safety study consistent with the requirements and recommendations in the most current version of the "Manual on Uniform Traffic Control Devices."

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1 Utah Code addresses speed limits generally on “highways”, which are defined in Section {41-6a-102} as: “the entire width between property lines of every way or place of any nature when any part of it is open to the use of the public as a matter of right for vehicular travel.” All instances of the term “highway” in this memorandum should be understood to include City streets.
The traffic engineering and safety studies shall include:
(i) the design speed;
(ii) prevailing vehicle speeds;
(iii) accident history;
(iv) highway, traffic, and roadside conditions; and
(v) other highway safety factors.

(2) In addition to the provisions of Subsection (1), the Department of Transportation may establish different speed limits on a highway or section of highway based on:
(a) time of day;
(b) highway construction;
(c) type of vehicle;
(d) weather conditions; and
(e) other highway safety factors.

MUTCD Section 1A.13 further defines engineering studies:

The comprehensive analysis and evaluation of available pertinent information, and the application of appropriate principles, provisions, and practices as contained in this Manual and other sources, for the purpose of deciding upon the applicability, design, operation, or installation of a traffic control device. An engineering study shall be performed by an engineer, or by an individual working under the supervision of an engineer, through the application of procedures and criteria established by the engineer. An engineering study shall be documented.

It is unlikely that the City will perform traffic studies for every street in its jurisdiction. However both the State and City set prima facie speed limits where there is no other signed speed limit. Utah Code Subsection {41-6a-601(2)} specifies prima facie limits for three zones:

(2) Subject to Subsections (1) and (4) and Sections 41-6a-602 and 41-6a-603, the following speeds are lawful:
(a) 20 miles per hour in a reduced speed school zone as defined in Section 41-6a-303;
(b) 25 miles per hour in any urban district; and
(c) 55 miles per hour in other locations.

Current City Code sets a single limit of 30 miles per hour in the absence of any other speed limit sign {10.04.090(B)}.

Furthermore, MUTCD Subsection 2B.13(08) provides an option for signing area-wide speed limits that are applicable to the entire city, a specific neighborhood, or residential area. These potentially could be used in lieu of lowering the prima facie speed limit, or in conjunction with it.

Supplementary Considerations
Functional classification is a transportation planning and funding framework. UDOT maintains official maps of functionally classified streets throughout the state. According to UDOT:

The Functional Classification Maps define the classes into which streets and highways are grouped, based on their function within the overall roadway network. Because federal funding is based on functional classification, the Functional Classification Maps also define the federal aid system (SAFETEA-LU made collectors and above eligible for federal aid, with local roads and minor collectors ineligible).
Principal arterials, including Interstates, other freeways, and other primary highways, serve statewide travel needs through rural areas and serve major centers of activity in urban areas. Minor arterials provide service to all developed areas of the state, including any cities and large towns, and are spaced in urban areas to provide a balance of access and mobility within communities. Rural collectors primarily serve travel that stays within each county and urban collectors to provide both land access and traffic circulation within residential, commercial, and industrial areas. Minor collectors are also designated when needed, particularly in rural areas, to collect traffic from local roads, provide service to smaller communities not served by arterials or collectors, and link locally important traffic generators to the rural outskirts they serve. All other roadways not otherwise designated are considered local roads.

Functional classification generally considers streets in terms of access and vehicle mobility, with an inverse relationship between those two components. Arterials, for example, will prioritize vehicle mobility over access, whereas local streets will prioritize access over vehicle mobility. In the latter case, there is typically a high level of access to private driveways accompanied by a low speed limit. Moab’s street network comprises the full range of classifications:

<table>
<thead>
<tr>
<th>Functionally Classified Streets in City Limits</th>
<th>Functional Classification</th>
<th>Observed Daily Traffic Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hwy 191 / Main St.</td>
<td>Principal Arterial</td>
<td>~17,000</td>
</tr>
<tr>
<td>100 North</td>
<td>Minor Arterial</td>
<td>3,800</td>
</tr>
<tr>
<td>400 East</td>
<td>Minor Arterial</td>
<td>7,900</td>
</tr>
<tr>
<td>Mill Creek Dr</td>
<td>Minor Arterial</td>
<td>5,700</td>
</tr>
<tr>
<td>500 West</td>
<td>Major Collector</td>
<td>4,000</td>
</tr>
<tr>
<td>400 North</td>
<td>Major Collector</td>
<td>4,200</td>
</tr>
<tr>
<td>100 West</td>
<td>Major Collector</td>
<td>5,400</td>
</tr>
<tr>
<td>100 South</td>
<td>Major Collector</td>
<td>2,900</td>
</tr>
<tr>
<td>300 South</td>
<td>Major Collector</td>
<td>5,100</td>
</tr>
<tr>
<td>Kane Creek Blvd</td>
<td>Major Collector</td>
<td>4,800</td>
</tr>
<tr>
<td>Williams Way</td>
<td>Minor Collector</td>
<td>2,800</td>
</tr>
<tr>
<td>Center St</td>
<td>Minor Collector</td>
<td>2,800</td>
</tr>
</tbody>
</table>

Of the above streets, all are City-maintained (Class C) except Main Street. All other City streets not listed are considered local, and typically have much lower traffic volumes. Lower speed limits (e.g. 20 or 25 MPH) are appropriate on local streets. However, in the interest of facilitating vehicle mobility on collectors and even more so arterials, higher speed limits should be considered.

Another factor to consider when evaluating speed limits, especially in urban areas, is the presence – or lack – of traffic calming. Wide, uninterrupted lanes with little visual interference generally embolden drivers to go faster. FHWA strongly suggests that setting speed limits below prevailing driver speeds does not encourage compliance. In other words, setting speed limits artificially lower than actual driver behavior is not a deterrent to drivers exceeding the speed limit. Speed limits should be consistent with driver behavior, which is in turn influenced by the physical characteristics of the street, such as lane width, sight distances, and proximity of roadside landscaping and multimodal facilities.

An apt case study of the effects of functional classification and traffic calming is East 300 South, which – absent an engineering study – was posted at 20 mph several years ago. It serves as a

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2 [https://www.arcgis.com/home/item.html?id=494d57208ea4464bb664ac2da38f9c91](https://www.arcgis.com/home/item.html?id=494d57208ea4464bb664ac2da38f9c91)
3 [https://safety.fhwa.dot.gov/speedmgt/ref_mats/fhwasa12004/](https://safety.fhwa.dot.gov/speedmgt/ref_mats/fhwasa12004/)
major collector that links 400 East (a minor arterial) with Main Street (a principal arterial), and has observed traffic volumes of about 5,100 vehicles per day, which indicates a high proportion of through-traffic. More recent radar data from 2019 shows that the 85th percentile speed was 26 MPH. This high rate of noncompliance is most likely due to its function as a high mobility collector and its open, unconstrained cross section. This speed limit is closer to a speed that one would expect for a functionally classified road with these traffic volumes.

**Staff Recommendation**
Given the likely prohibitive time investment and expense of performing speed studies and erecting signs on all City streets, staff recommends:

- Lowering the City’s City Code prima facie speed limit from 30 MPH to 25 MPH.
- Installation of signage at key locations stating that: “The Speed Limit on Moab City streets is 25 MPH unless otherwise posted.” This would communicate the new 25 MPH prima facie speed limit, which would apply on streets with no posted speed, while allowing the existing 20 MPH signs to remain posted on local, residential streets.
- Erecting area-wide speed limit signs at select locations to reduce certain residential limits further to 20 MPH, without having to install too many new signs. This can be done where desired to lower the speed limit or to reinforce existing posted speed limits.
- Maintaining or posting the speed limit at 30 MPH on select, mobility-prioritized functionally classified streets, such as 500 West.

Taking these incremental steps will preclude the issues associated with lowering limits on all City streets, while accomplishing lower or statutory speed limits in the residential areas of the City to 20 MPH or 25 MPH and allowing the higher volume functionally classified streets to be posted at 30 MPH thus allowing traffic to operate more efficiently on those streets.

Furthermore, the City’s transportation plan is underway, and should provide essential guidance for future actions.

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