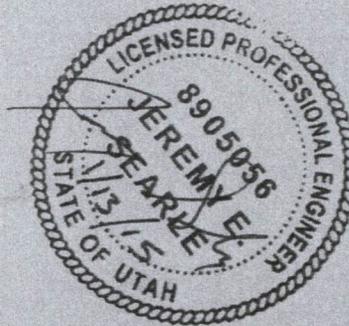


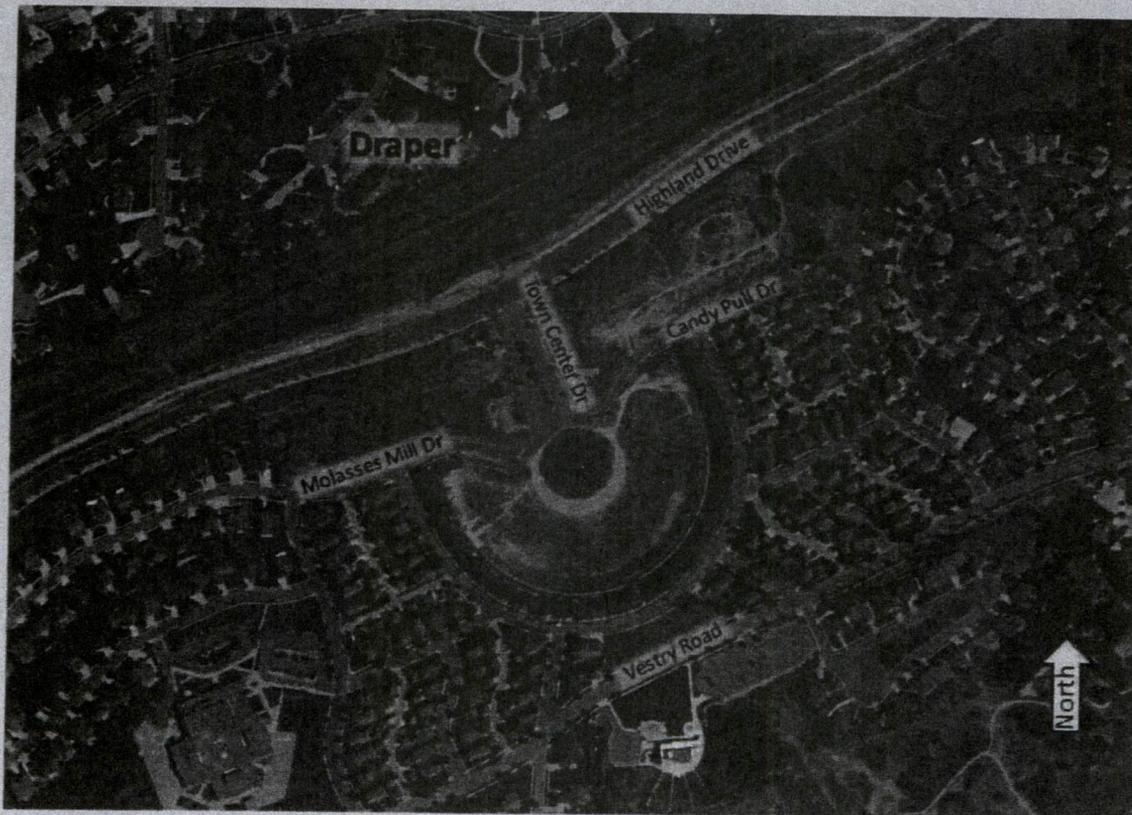
**MEMORANDUM**

Date: January 13, 2015  
To: Brien Maxfield, P.E.  
Draper City  
From: Ryan Hales, P.E., PTOE, AICP  
Jeremy Searle, P.E.  
Subject: **Draper – Town Center Drive Traffic Study**



UT14-656

This traffic study analyzes the Town Center Drive / Molasses Mill Drive & Candy Pull Drive intersection near the proposed Deer Run Preserve development project located in Draper, Utah. The project is located south of Highland Drive centered around the study intersection. Figure 1 shows the project location in Draper, Utah.



**Figure 1 Vicinity map of proposed development in Draper, Utah**



Figure 4 Sight Distance Requirements

### Crash History

Crash history for the study area was requested on January 7, 2015 from the Draper City Police Department. According to the Draper Police Department, only two crashes have occurred at the study intersections over the past five years.

The first crash occurred in 2009. According to the police report, the vehicle was attempting to make a right-turn onto Town Center Drive from Highland Drive, but was travelling too fast. The vehicle drove onto the median and struck a landscape boulder.

The second crash occurred in 2013 and was also a single vehicle crash. The vehicle was travelling westbound on Highland Drive and drifted off the road due to distracted driving. This occurred on Highland Drive near Town Center Drive.

No other crashes were reported within the last five years in the vicinity of the study area. Neither of the two crashes occurred at the Town Center Drive / Molasses Mill Drive & Candy Pull Drive intersection. There is no evidence from the crash history that indicates that there is a safety issue at the Town Center Drive / Molasses Mill Drive & Candy Pull Drive intersection.

### Best Design Practices

According to "A Policy on Geometric Design of Highways and Streets", 6<sup>th</sup> Edition, 2011, by the American Association of State Highway and Transportation Officials (AASHTO), commonly known as the Green Book, "Intersection legs that operate under stop control should intersect at right angles, wherever practical, and should not intersect at an angle less than 60 degrees." Further, the Green Book states, "The driver of a vehicle approaching an intersection should have an unobstructed view of the entire intersection and sufficient lengths of the intersection roadways to permit the driver to anticipate and avoid potential collisions." The Green Book also states "An intersection on a sharp curve should be avoided or designed to compensate for potential adverse grade and reduced sight distance."

In addition, the Green Book recommends realigning skewed intersections, especially those that meet at acute angles. In this case, the angle of the intersection is an obtuse angle, which doesn't limit the sight distance as dramatically as an acute angle. Although it appears as though the sight distance is adequate at this location, it is recommended that the intersection be realigned as a standard T-intersection in order to comply with recommended design practices and better meet driver expectation.

### Conclusions/Recommendations

Based on the analysis performed for the intersection of Town Center Drive / Molasses Mill Drive & Candy Pull Drive, Hales Engineering makes the following conclusions/recommendations:

1. The intersection is currently operating at acceptable levels of service during the peak hours.
2. Traffic generated by the proposed project was calculated and distributed through the study intersections. All study intersections are anticipated to continue operating at acceptable levels of service after the proposed project is completed.
3. Sight distance was evaluated and appears to be adequate at the intersection.
4. Crash history at the study location was evaluated. There is no evidence from the crash history that indicates that there is a safety issue at the Town Center Drive / Molasses Mill Drive & Candy Pull Drive intersection.
5. The AASHTO Green Book recommends that skewed intersections be realigned to meet at 90 degree angles to provide maximum sight distance and meet driver expectation. Therefore, Hales Engineering recommends that the Town Center Drive / Molasses Mill Drive & Candy Pull Drive intersection be realigned to a standard T-intersection, if possible.
6. Hales Engineering did not evaluate costs, utility conflicts, right-of-way impacts, or other feasibility impacts. Some of these issues may be too great to overcome, and the ability to realign the intersection might not be feasible.

If you have any questions about this traffic analysis, please feel free to contact us.