

Hillside Avenue Traffic Discussion

Additional Analysis:

On December 1, 2014 a request was made to NTMP concerning the increased traffic on Hillside Avenue and the lack of clear signage on and near Hillside Avenue. At that time, the increase in traffic was attributed to increased use of shuttles, taxis, delivery vehicles and visitors hunting for parking spaces. In July, 2015, the conceptual design of the Brew Pub Plaza started. The residents along Hillside Avenue were concerned with the possible impacts of the Brew Pub Plaza to traffic on Hillside Avenue. Until the Brew Pub Plaza was conceptualized, staff put on hold analysis for the Hillside Avenue traffic request. The reason for this hold was so the plaza could be included in the analysis of traffic circulation in the area. With the conceptual design of the Plaza complete, the traffic circulation analysis was then completed for the area. The following analysis presents the collected information.

Over the years, numerous traffic counts (Average Daily Traffic or ADT) have been collected for Hillside Avenue;

| <u>Time Period</u> | <u>ADT</u> |
|-------------------------|------------|
| 10/28/2008 – 10/31/2008 | 879 |
| 09/19/2014 – 10/29/2014 | 1,156 |
| 12/05/2014 – 12/09/2014 | 1,347 |
| 12/30/2014 – 01/08/2015 | 1,822 |
| 01/13/2017 – 01/20/2017 | 2,300* |
| 07/03/2017 – 07/06/2017 | 2,988** |

* Martin Luther King Weekend Holiday

** July 4th Weekend Holiday

Additional traffic counts were taken on Hillside Avenue during this Thanksgiving weekend. The data collected is below;

| <u>Time Period</u> | <u>ADT</u> |
|--------------------|------------|
| 11/22/2017 | 1,303 |
| 11/23/2017 | 1,035 |
| 11/24/2017 | 1,661 |
| 11/25/2017 | 1,588 |
| 11/26/2017 | 1,034 |
| 11/27/2017 | 1,312 |
| Average | 1,322 |

For clarification, Road designers typically use AADT as the capacity their road must be designed to support. AADT averages traffic over the whole year. In Park City, staff has a tendency to use ADT based on the summer and winter active months for design capacity. The reason is the traffic in the shoulder season can be so low; it would push our design traffic capacity numbers down. On the other hand, road designers typically

do not use peak traffic for design because the roads would be grossly over designed for the rest of the year (non-peak periods). So what does this mean? The ADT derived during Martin Luther King and July 4th Holidays is high because it is a peak traffic period and would not necessarily be included to determine the design capacity of Hillside Avenue. Likewise, the ADTs derived during the months of September and October occurs during the slow shoulder seasons and would also not necessarily be included to determine the design capacity of Hillside Avenue. All these traffic numbers, though, are taken into consideration when determining a road design capacity.

During this Thanksgiving weekend, staff video recorded shuttle and deliver vehicle turning movements for the Main Street/Swede Alley intersection. It was assumed that any vehicles traveling north or south on Main Street (south of Swede Alley intersection) were utilizing Hillside Avenue. The information derived from the recordings is as follows;

| Date | Shuttle Trips Using Hillside | Delivery Trips Using Hillside | Total Trips (All Vehicles) | % Attributed to Shuttles & Deliveries |
|----------------|------------------------------|-------------------------------|----------------------------|---------------------------------------|
| 11/24 | 99 | 13 | 1,661 | 6.74% |
| 11/25 | 66 | 5 | 1,588 | 4.47% |
| 11/26 | 95 | 0 | 1,034 | 9.19% |
| 11/27 | 67 | 11 | 1,312 | 5.95% |
| Average | 81.75 | 7.25 | 1,398.75 | 6.36% |

Staff collected this intersection information to better understand how commercial vehicles utilize Hillside Avenue. By using this intersection data along with the traffic counts obtained on Hillside Avenue, staff was able to estimate the number of trips on Hillside Avenue generated by shuttles and delivery vehicles. Staff findings include;

- A typical collector road will usually see trips generated by commercial vehicles (not including shuttles) to be on average around 10%. Including shuttle trips with the commercial vehicles, Hillside Avenue is seeing commercial trips averaging only 6.36% during the holiday weekend.
- Additional turning movements at the Main/Swede intersection included;
 - 57 shuttles heading south on Main Street turned off onto Swede Alley,
 - 67 shuttles turned off Swede Alley and headed north on Main Street,
 - 27 delivery vehicles heading south on Main Street turned off onto Swede Alley, and
 - 10 delivery vehicles turned off Swede Alley and headed north on Main Street.
- Staff was amazed with the number of vehicles that performed a U-turn at this intersection. All of the U-turns were vehicles heading south and U-turning back to the north! Staff did not count these vehicles but did want to note the movement without commentary,
- Will eliminating commercial vehicles make a difference on trip volumes? – From the data presented above, it appears that banning commercial vehicles from using Hillside Avenue would have a positive but relatively unnoticeable

improvement to the number of trips. On average, the trips would go from 1,399 trips per day down to 1310 trips per day.

In the 2011 Traffic and Transportation Master Plan, Hillside Avenue was not classified as staff struggled with designating this dual purpose street. The two possible classifications considered were Commercial Collector and Minor Residential Collector. The design capacity of these two classifications is as follows (Local Road is added in the chart for further discussion);

| <u>Street Classification</u> | <u>Daily Traffic Volumes (Trips)</u> | <u>Threshold (Trips)</u> |
|-------------------------------------|---------------------------------------------|---------------------------------|
| Commercial Collector | 7,000 – 15,000 | 15,000 |
| Minor Residential Collector | 2,000 – 5,000 | 8,000 |
| Local Road – Old Town | Less than 2,000 | 2,500 |

Based on the data provided above, staff does not consider the capacity of Hillside Avenue to have been exceeded;

- Hillside Avenue should be classified as a collector. As such and if you take the lower capacity collector (Minor Residential), the daily traffic volume and threshold capacities are never exceeded,
- Hillside Avenue was built sub-standard for a collector (minimum of 10 foot wide travel lanes). Hillside, from a physically constructed standpoint, more closely resembles a local road. Even so, the local road threshold is not exceeded during a normal non-peak day and the number of trips recorded is within the streets acceptable daily traffic volumes.

Hillside Avenue Studies - Two traffic studies were completed for Hillside Avenue. The first one was completed internally by staff and the second study was more comprehensive and was prepared by an outside consultant (Parametrix);

December 2014 Study – Staff prepared a study in December 2014 in response to the resident’s concern. The study identified a few solutions to implement;

- The first solution was to adjust the location of the uphill signage for yielding to traffic. The yield sign was moved in 2015 and in early October of this year, attached a new placard to the yield sign that notes “to oncoming traffic”.
- The next solution was to install yellow stripping on the upper flat section of Hillside Avenue to stop the “cutting of the corner” as cars traveled uphill. The stripping was installed in 2015
- The last solution was to modify the signage which directed visitors up Hillside Avenue when looking for open parking spots. The signage at the intersection of Marsac and Hillside intersection, Daly and Hillside intersection has not been modified. The signage at the Swede Alley and Main Street directing visitors up Main Street when looking for open parking spots has been removed.

Parametrix Traffic Circulation Analysis - At staff requests, Parametrix evaluated several traffic circulation issues for Hillside Avenue and the proposed Plaza. The

report is hyperlinked here. The following is a summary of the findings as they relate to Hillside Avenue;

- Way finding signage should be improved to better help visitors find their way around this area of town,
- A bulb out at the Swede Alley/Main Street intersection with clear parking signs pointing visitors toward China Bridge parking structure may decrease visitors ending up on Hillside Avenue,
- Previous analysis of the impacts of a new road connection between Main Street and Swede Alley will not likely influence the use of Hillside Avenue as a route to downtown destination,
- Constructing a limited use road around China Bridge parking garage which connects Marsac Avenue to Swede Alley has possibilities as a shuttle/taxi route to a drop-off/pick-up zone located near Swede Alley. This route does have numerous physical constraints to be overcome but if realized, could be used to divert shuttle and taxi trips off of Hillside Avenue, and
- Restricting vehicle on Hillside Avenue could be considered based on a safety reason but restricting vehicles based on trip purpose is not expressly supported by the State Code. Even so, identifying a vehicle trip purpose in order to ticket the driver would be costly, difficult and time consuming for law enforcement.

In the October 24 City Council meeting, Council asked staff if the City could ban just commercial vehicles from using Hillside Avenue. The following points attempt to answer this question;

- Title 72 of the Utah Code is the transportation code for the state, counties and cities,
- Based on the code, the City could completely close Hillside Avenue (a formal process must be followed including public hearings before this action could take place),
- Based on the State Code, the City could temporarily close the road for a safety reasons such as load restriction, height, etc. The safety concern must be addressed within two years,
- The State Code is silent on closing of Hillside Avenue for a specific use (closed to commercial vehicles only),
- As a current example, Legacy Parkway does restrict vehicle use (no truck traffic or hazardous cargo allowed on Legacy Parkway). The State accomplished this by;
 - Trucks and hazardous cargo were banned before the parkway was opened,
 - Title 72, Chapter 3, Part 1, Section 113, Truck Limitations on Legacy Parkway, was added to the Utah Code to support the ban.

Future Trip Growth – The traffic counts from above have shown that trips on Hillside Avenue have increased from 2008, which was the start of the recession, to present day. What could be expected for future trip growth on Hillside Avenue? When Transportation

Planning achieves their transportation goals, the number of trips on Hillside Avenue should stabilize with the hope that a reduction in trips will occur. Success for Transportation Planning in reducing trips will mean single occupant vehicles are reduced as more people use transit, carpools and shuttles to move around town. If we restrict shuttle use, it may counter Transportation Planning goals.