NELSON
NYGAARD

MEMORANDUM

To: Andrew Robinson, Yerba Buena Community Development District, and Calder Gillin, CMG

From: Colin Burgett

Date: June 14, 2013

Subject: **Annie Alley Temporary Closure & General Assessment of Traffic Diversion Pattern**

This memorandum provides a general assessment of likely traffic diversion patterns that could result from the proposed closure of Annie Alley.

This assessment is based on review and comparison of traffic volume data (provided to Nelson\Nygaard) that was collected in February/March 2013 (when Annie Alley was open to vehicle traffic) and again in May 2013 (when Annie Alley was temporarily closed to motor vehicle traffic for a special-event period).

BACKGROUND & PURPOSE

During the recent temporary closure period on Annie Alley in May 2013, traffic volume data was collected by San Francisco Planning Department staff during specific time periods on multiple days of the week (including both weekday and weekend counts). Earlier in the year: an identical set of traffic volume data was collected in February/March 2013, for identical time periods, when Annie Alley was open to vehicle traffic. Therefore: a comparison of the two sets of count data is informative, in assessing the potential effect of closing Annie Alley, and for assessing the potential for resulting changes in traffic patterns.

Since transportation impacts studies in San Francisco typically focus on traffic operations during the most congested time of the day (i.e., the "Weekday PM Peak Hour"), this memorandum focuses on the data collected during the weekday PM Peak Period (a two-hour block of time between 4 and 6 pm). This assessment is based on the traffic volume data provided to Nelson\Nygaard for each of the two rounds of counts:

- **Traffic Volume Count, Round 1: Annie Alley open to vehicle traffic (south of Jessie Street):** The February/March 2013 observations observed the number of vehicles traveling east & west on Jessie Street, and the number of vehicles traveling south on Annie Alley (approaching Mission Street) during each count period.
- **Traffic Volume Count, Round 2: Annie Alley closed to vehicle traffic (south of Jessie Street):** Similarly, the May 2013 observations observed the number of vehicles traveling east & west of Annie Alley on Jessie Street, during the same time periods. Since this occurred during the period of temporary closure of Annie Alley, there were no vehicles traveling south of Jessie Street on Annie Alley during the time. The intent was to observe the change in traffic patterns during the period of closure.

Key Observations

With Annie Alley open to vehicle traffic:

The February/March count data provided by YBCBD indicated that a relatively low volume of motor vehicle traffic was observed to travel on Annie Alley (south of Jessie Street, approaching Mission Street) during the PM Peak period:

- Count data provided to Nelson\Nygaard for the 2-hour PM Peak Period from 4 to 6 PM, indicated that, **during the 2-hour PM Peak period, a total of 148 vehicles traveled south on Annie Alley (southbound approaching Mission Street).**
    - By comparison, during that same 2-hour period: 298 vehicles approached New Montgomery (traveling eastbound on Jessie Street) and 119 vehicles traveled westbound (towards Third Street).
    - Since vehicles approaching Mission Street are required to make a right-turn on to Mission (thus traveling westbound), this indicated that those motorists exiting via Annie Alley were headed to locations to the west.
    - Furthermore: since left-turns are not allowed from Mission Street, it is a fair assumption that motorists intending to travel south of Mission Street would generally avoid exiting via Annie Alley (instead preferring to exit via New Montgomery Street).
    - For motorists desiring to travel north of Market Street, Annie Street is currently a viable option, since those motorists can travel west on Mission Street before making a right-turn on any of the streets that accommodate northbound circulation (such as Third, Fifth, Sixth, etc.).
- Based on review of the February/March count data: the estimated volume of PM Peak Hour traffic exiting via Annie Alley is less than 100 peak-hour vehicles. (Although the 2-hour volume of 148 vehicles equates to an average of 74 per hour, the peak 60-minute period may have a higher volume than the average).
- The February/March data was consistent with observations by Nelson\Nygaard staff, which noted infrequent use of the alley, even during the PM Peak Hour. Volumes of less than 100 vehicles during the PM Peak hour equate to an average of just one to two vehicles per minute (or one vehicle every 30 to 60 seconds).

With Annie Alley closed to vehicle traffic:

The temporary closure of Annie Alley in May required those motorists that would otherwise exit to Mission Street (via Annie Alley) to instead exit via Jessie Street.

- As noted above: turn restrictions on Mission Street make it extremely unlikely that motorists desiring to the east, or south of Mission Street, would typically choose to exit via Annie Alley.
- Instead: motorists exiting via Annie Alley would be more likely to be limited to those motorists desiring to travel west or north.

The May count data (during the period of temporary closure of Annie Alley) found that:

- **Approximately 83 percent of the diverted traffic (i.e., motorists that would otherwise exit via Annie Alley) appeared to exit Jessie Street in the westbound direction (approaching Third Street).**

- This is based on a review of the 2-hour (4 to 6 PM) Peak Period traffic count data collected during the alley closure in May, and a comparison with the February/March data collected when the alley was open to traffic, which found that:
    - Westbound traffic volume on Jessie Street (i.e., traveling west of Annie Alley towards Third Street) increased by 129 vehicles during the 2-hour PM Peak count period (during the period of alley closure).
        - *This equates to an average of <u>one additional westbound vehicle per minute</u> (during the 2-hour PM Peak count period).*
    - Eastbound traffic volume on Jessie Street (traveling east of Annie Alley towards New Montgomery Street) increased by a much smaller amount: just 27 additional vehicles during the 2-hour PM Peak count period.
        - *Note: this equates to an average of <u>one additional eastbound vehicle every four minutes</u> (during the 2-hour PM Peak count period).*
    - The total, net increase in traffic exiting via Jessie Street was 158 vehicles.
- The observed exiting pattern (based on the May 2013 count data) is consistent with the assumption that those motorists exiting via Annie Alley are generally traveling towards the west, and/or to the north of Market Street.
- Since Third Street is a one-way northbound street: this indicates that most of those motorists exiting towards the west most likely traveled directly north of Market Street, via Third Street to Kearny Street (and/or to other "north of Market" streets).

Implications for Proposed Annie Alley Closure

As stated in the prior, preliminary assessment memorandum provided by Nelson\Nygaard (*Proposed Annie Street Design*, March 18, 2013): the likelihood of significant traffic impacts occurring as a result of the proposed Annie Alley closure is primarily contingent on whether or not such closure would divert traffic in a direction that adds a significant traffic volume to critical movements at congested locations. In particular:

1. During the AM Peak Hour (and during many "off-peak, mid-day" hours as well): traffic congestion is typically greatest in the northbound direction on Third Street, as traffic delays occur approaching Market Street. However: the proposed closure of Annie Alley would not divert much traffic at all during the AM Peak Hours: just 46 vehicles were observed to travel south on Annie Alley (approaching Mission Street) during the 2-hour AM Peak Period (8 to 10 AM). This equates to an average of just one vehicle every 2 to 3 minutes during the AM Peak Hour.
2. **During the PM Peak Hour: traffic congestion is greatest in the southbound direction, particularly with slow-moving traffic on New Montgomery Street (and other key southbound streets in the area).** This is ultimately a function of afternoon/evening traffic pattern, with a large volume of vehicles exiting downtown via the Bay Bridge, southbound freeways (U.S. 101 and I-280), and key arterial routes such as Howard and Mission Streets.
3. Given these traffic patterns: observed delay on Jessie Street would be expected to be most likely to occur in the westbound direction during the AM Peak (approaching Third Street), and in the opposite direction, eastbound during the PM Peak (approaching New Montgomery Street).

4. In addition: pedestrian volumes on New Montgomery Street are particularly high, often delaying motorists waiting to exit Jessie Street to the east (at the unsignalized intersection with New Montgomery Street). Therefore: if the proposed Annie Alley closure were to divert a significant volume of traffic towards New Montgomery via Jessie Street: then significant impacts could occur. However, as indicated by the May 2013 counts: a very small number of vehicles were diverted in that eastbound direction (just one added vehicle every four minutes). Therefore: significant traffic impacts at the intersection of Jessie and New Montgomery Streets are unlikely to result from the proposed closure of Annie Alley.
5. The diversion of PM Peak Hour trips towards the west on Jessie Street, towards Third Street, is less likely to result in potential traffic impacts, since PM Peak Hour traffic congestion is greatest in the southbound direction (i.e., many motorists exiting downtown). In addition: observations conducted by Nelson\Nygaard staff in March 2013 observed no significant delay or queuing approaching Third Street. However, such observations were not conducted during the May 2013 temporary closure. Nonetheless: a more formal analysis of potential traffic impacts at the intersection of Jessie Street and Third Street may ultimately be required and/or requested.