DOWNTOWN NORTH TRIAL TRAFFIC CALMING PLAN
EVALUTION RESULTS IN TERMS OF PERFORMANCE MEASURES

The following evaluation results address the City-Council adopted performance measures as stated in Attachment A of CMR:440:00, December 11, 2000. The detailed performance measures are listed in a separate document. As stated in the performance measure document, the measures are not meant to be absolute. Commissioners and Council members will want to consider whether each performance measure is met, but may choose to consider them only as guidelines in weighing the overall performance of the plan.

Through Traffic Reduction by 65%

1. This measure was satisfied. The neighborhood perimeter (cordon) count of all entries and exits decreased from 23,900 to 13,700 (45%) between February and September 2003. It is assumed that most of this reduction was in through trips (i.e., trips with neither origin nor destination in the neighborhood). This is a decrease of about 10,000 entries and exits, or about 5,000 through trips. Before the trial plan, we estimated daily through trips at about 5500 – 6000, so the trial plan reduced through trips by about 90 percent. (Note: through traffic calculations are estimates based on theoretical trip generation combined with actual traffic counts. Traffic volume measurements can easily vary by $\pm$10% from one day to the next, with additional seasonal variations. Roadway conditions, including unknown construction activities outside the area, could also affect travel patterns and volume counts. During the six months between the "before" and "after" measurements, longer-term factors other than the trial plan installation could change traffic volumes—e.g. improving economic conditions, opening of IKEA, etc. Nevertheless, due to the large calculated decrease in through trips (90%) compared to the goal (65%), it is reasonable to conclude that the goal has been attained and most likely substantially exceeded.)

Diversion of Traffic to Other Streets 25% Maximum

2. *On streets with a "before" count of less than 2500 vpd in the Downtown North and Lytton neighborhoods*: This measure was not satisfied. At least six street segments experienced diversion percentages well over 25 percent, with 25 percent being considered the maximum increase threshold. In some cases, these segments were low-volume segments where the absolute volume increase was low, but represented a high percentage change.

3. *On streets with a "before" count of 2500 vpd or greater in the Downtown North and Lytton neighborhoods (local neighborhood streets only)*: This measure was satisfied, as no before or after volume measurements exceeded 2500 vpd.

4. *Peak hour level of service LOS D maximum at arterial intersections*: This measure was satisfied. Level of service remained at LOS C at Middlefield/Lytton and LOS B at Alma/Lytton. Though not listed as a performance measure, the length of queues at the Middlefield/Lytton intersection approximately doubled as a result of signal phasing changes made to help eastbound Lytton traffic turn left (north) onto Middlefield. However, in most cases, queues cleared the intersection each signal

cycle. Only one arterial street segment showed an increase after the trial was installed—Lytton east of Cowper—the 23 percent increase is acceptable.

Speed Reduction by 15%

5. Overall, 85th-percentile speeds of remaining traffic on internal Downtown North streets was essentially unchanged, so in an absolute sense this measure was not satisfied. "Before" 85th-percentile speeds measured on a 24-hour basis were 31 mph or less at all locations, with only 3 locations at 30 mph or higher, so speeding is not a major issue for this trial. The goal of the project was to reduce the "incidence of speeding", which means a reduction in the number of drivers speeding. Because volumes in the neighborhood were reduced by an average of about 45 percent, this represents a substantial decrease in the number of drivers exceeding the residential speed limit, so the performance measure was satisfied in this regard.

Safety

6. *No crashes related directly to the plan*: This measure was satisfied. According to the Police Department, no crashes were directly caused by the presence of the traffic calming measures (any DUI accidents are attributed solely to the condition of the driver). In the four month period between July 1 and October 31 of each of 2001, 2002 and 2003 (the latter when the trial plan was in place), crashes on Downtown North neighborhood streets, including on the three bounding arterials, substantially decreased each year (47, 36, 28), with the lowest number occurring while the trial plan was in place (note: this data includes one block outside of the DTN neighborhood, bounded by Middlefield, University, Webster and Lytton). Without detailed analysis of each crash, no conclusion can be drawn regarding the effect of the traffic calming project on the number of crashes.

7. *Middlefield/Everett intersection*: This measure was satisfied. There were no crashes at this intersection during the trial period, versus three during the same period last year.

8. *Response times for Fire and Police Departments:*

    a. Police: This measure was satisfied, as response time goals were met.

    b. Fire: Indeterminate. There is no hard data to evaluate response times because there were no incidents during the trial period. The Department estimates that a closure could cause a delay of one minute if a closed street were encountered during an emergency response. But the impact of such a delay is hard to quantify in terms of adopted mission goals. The Department emphasizes that a one minute delay, if experienced, could have a substantial negative impact on certain medical or fire emergencies.

9. *No serious impediments to emergency activities:*

    a. Police: This measure is essentially satisfied. One incident took place early in the trial where a suspect evaded police officers who were blocked by the closures.

The Department feels this was a unique incident due to the officers' unfamiliarity with the new measures.

b. Fire: Indeterminate. The project could cause potential delays, but there were no incidents during the trial. Fire describes many potential impediments that the closures could cause. Overall evaluation by the Fire Department: This plan (using street closures with bollards) presents a problem for responders and will most likely result in response delays.

c. Other: The Fire Department did not experience any response delays to Lytton Gardens or Webster House (both of which are located outside of the Downtown North neighborhood) as a result of increased traffic congestion on Lytton Avenue.

10. *Safety problems reported by citizens.* Citizens registered numerous complaints of safety problems caused by the street closures, especially early in the trial period. These included speeding, U-turns, angry drivers, and other unsafe activity. USPS carriers report seeing safety hazards. It is difficult to know if these incidents have declined as drivers have become used to the presence of the measures.

Neighborhood Acceptance

11. The neighborhood survey has not yet taken place. Since the trial began, Transportation Division received approximately 160 unsolicited letters, e-mails and phone calls about the project. About 30% of these favor the trial plan, and 65% against it.

Other Issues and Impacts

12. Impacts on other services
    a. US Postal Service (USPS): Carriers report extra time to do routes resulting in reduction in service and incurring extra costs. The carriers would prefer speed humps instead.
    b. Utilities Department: No major issues during trial. But the measures will increase costs and time of response for servicing and replacing utilities of all types.
    c. Public Works Maintenance: Identifies maintenance problems during trial (cost about $3000) and projected maintenance cost annually of about $10,000, about 60% of which is due to manual sweeping of areas blocked for street sweepers. No funds are allocated for extra maintenance.
    d. PASCO: Because many of PASCO's runs are one-person, the driver has not found it efficient to unlock the bollard for passage. Instead, the driver modifies the route(s). This has resulted in increased time and cost. PASCO would prefer speed humps instead.

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