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Excerpts from Cushman and Barnette Two-Way Traffic Study:

Three alternatives considered for downtown transportation network, recommendations and conclusions.

ALTERNATIVE 1 (p. 4)

Two-Way Cushman-Barnette repeats the Vision Fairbanks Downtown Plan's (VFDP) recommendations of converting Cushman Street and Barnette Street to two-way through downtown, across the Chena River, and to the roundabout.

Under this alternative, Cushman Street would include one travel lane in each direction and on-street parking on both sides. In addition, the streetscape would be improved with wider sidewalks and decorative lighting on Cushman Street. For the purpose of this analysis, all the east-west streets are assumed to be two-way in order to be consistent with the VFDP traffic analysis. The final recommendations for the Cushman Street Retail Revitalization Plan proposed leaving 3rd Avenue and 4th Avenue one-way. Due to the low east-west traffic volumes on these two streets, one-way versus two-way operation does not significantly impact the traffic operations on Cushman Street or Barnette Street.

Conclusions and Recommendations (p. 20)

Alternative 1 provides the best overall flexibility for traffic to distribute between Cushman Street and Barnette Street and the least influence on business location decisions because of the better storefront exposure. The following should be considered if Alternative 1 is chosen:

- Construction of the additional improvements at the 1st Avenue/Barnette Street intersection.
- Widening of Cushman Street to provide two northbound through travel lanes between Airport Way and 10th Avenue.
- Consideration of a signalized intersection at the Illinois Street/Terminal Street intersection as an option to the roundabout, if right-of-way for a roundabout is not available.

Cushman Street and Barnette Street should be equipped with on-street parking and pedestrian streetscape improvements and traffic signals should be timed to manage traffic speeds such that the 85th percentile travel speeds are less than 20 miles per hour.

ALTERNATIVE 2 (p. 5)

One-way Cushman-Barnette maintains Cushman Street and Barnette Street as a one-way couplet through downtown, across the Chena River, and converging at a signalized intersection. Alternative 2 assumes the same two-way configuration for the east-west streets and Cushman Street is narrowed to two-lanes with on-street parking.

Conclusions and Recommendations (p.20)

Alternative 2 provides the greatest overall mobility and capacity along the corridor, but may affect location decisions of businesses with greater dependence on passby traffic. It also has the fewest sources of pedestrian-auto conflicts, providing the easiest pedestrian network to navigate.

Cushman Street and Barnette Street should be equipped with on-street parking and pedestrian streetscape improvements and traffic signals should be timed to manage traffic speeds such that the 85th percentile travel speeds are less than 20 miles per hour.

ALTERNATIVE 3 (p.5)

Two-Way Cushman-Barnette with One-Way Bridges is the configuration of streets and bridges that would result from converting Cushman Street and Barnette Street to two-way streets south of the Chena River, but operating the bridges and segments to the north as a one-way couplet.

Conclusions and Recommendations (p. 20)

Alternative 3 does not meet the goals and objectives of the VFDP and is not recommended for the following reasons:

- Barnette Street will not function as a “Mobility Street” due to the traffic routing between Cushman Street and Barnette Street on 1st Avenue and 2nd Avenue.
- A new “zig-zag” traffic pattern on 1st Avenue significantly increases vehicle delay along the corridor and will make way-finding difficult for visitors.

EVALUATION CRITERIA (pps. 2-4)

Evaluation criteria were developed based on the eighteen community goals presented in the VFDP and a review of the goals and objectives in the ongoing update of the FMATS LRTP (*editor’s note: Long Range Transportation Plan*). Based on the goals of these planning efforts, five key objectives were identified with respect to the Cushman Street and Barnette Street corridors.

Traffic Operations: Maintaining acceptable auto access and circulation is essential to the economic viability of downtown businesses. For the purpose of this study, any alternative chosen for consideration must be able to accommodate the projected traffic demand within acceptable performance thresholds on Cushman Street and Barnette Street. Delay at signalized intersections should not exceed LOS D (*editor’s note: Level of Service*) and queuing must not extend back to adversely impact upstream intersections.

Target Traffic Level for Signature Street: An important element in the VFDP is to transform Cushman Street into a “Signature Street,” maintaining a target traffic level. An ADT target of between 8,000 and 15,000 vehicles was identified by VFDP consultant, Crandall Arambula PC, as providing a balance of vehicle exposure and maintaining a good pedestrian environment. Although this document does not provide other specific metrics (i.e. traffic volume by direction of travel, ratio of peak hour volume to daily traffic volume, proportion of local traffic volume to

through traffic volume), the premise of the “Signature Street” is that it provides for two-way vehicular travel. Further, the target traffic volumes should be evenly divided across the two directions of travel, over the course of the day. For example, if Cushman Street carried 10,000 ADT, then the ideal situation would be if approximately 5,000 ADT traveled northbound and 5,000 ADT traveled southbound.

Pedestrian Environment: The pedestrian environment encompasses many elements such as sidewalk width, crossing distances, complexity of crossings, sources of pedestrian-auto conflicts, vehicle speeds, traffic volume, and proportion of large vehicles in the traffic stream. Another important element in the VFDP is the enhancement of the pedestrian environment, particularly along Cushman Street. Therefore, it is assumed that the City will actively manage traffic speeds within tight tolerances (i.e. 85th percentile speeds less than 20 mph); provide on-street parking; and, provide similar sidewalk and streetscape improvements, regardless of whether Barnett and Cushman are one-way or two-way streets. Thus, the primary measure used to evaluate pedestrian environment is the type and significance of pedestrian conflicts with turning vehicles at signalized intersections.

Storefront Exposure: Many retail businesses seek frontage along streets with relatively high traffic volumes as a basic means of marketing and exposure. Repetitive exposure builds familiarity and develops an association with a particular street. One-way streets only provide exposure to one direction of travel and, if the street is heavily traveled by commuters, may have an influence on the type of business that is attracted to the street (i.e. breakfast restaurants along morning commute routes and dinner restaurants along evening commute routes). Therefore, the VFDP consultant has recommended a two-way street treatment to provide “balanced” exposure and minimize the effect that street treatment may have on business location decisions.

Access to Businesses and Street Circulation: The location and availability of parking has a significant effect on driver perception of business accessibility. If there is available on-street parking at the front door of the business, then the business is perceived as very accessible. If there is no on-street parking and the driver has to find parking six blocks away, then the business is perceived as less accessible or inaccessible. Business accessibility is another important element of the VFDP and it is therefore assumed that on-street parking will be provided on both sides of Cushman and Barnette (and wherever else it is feasible), regardless of the alternative that is ultimately implemented.

Street circulation also has an impact on driver perception of business accessibility. Sites that are served by several routes have an obvious advantage over those served by only one. The additional value of several routes (such as offered by a grid network of streets) is the ease of circulating around the site. When streets are discontinuous (an interrupted grid), circulation is adversely impacted. Sometimes, a one-way street system or mixed system of one-way and two-way streets can adversely impact circulation. This is particularly true when a one-way street takes a driver away from desired parking, forcing additional travel than if the street were

two-way. Each alternative will be examined to determine if it meaningfully contributes to a lack of street circulation and business accessibility.