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Second Avenue: Union Street to Lenora Street, Condominium Owners
c/o Michael McQuaid
1521 Second Avenue
Seattle, WA 98101

Subject: New Development - Cumulative Downtown Alley Traffic Congestion and Safety Impacts - First Avenue and Third Avenue in a Five Block Corridor on Second Avenue

Dear Mr. McQuaid,

Thank you for asking TSI to comment on the cumulative accessibility and safety impacts emerging with recent development of high rise buildings in downtown with focus on the Second Avenue corridor from Union Street to Lenora Street. We understand that you and other downtown residents are concerned that the City of Seattle Zoning Code requirement of concentrating parking, loading, and service activity on alleys is creating some unintended adverse consequences relating to vehicle access, pedestrian safety and parking. This letter summarizes our current understanding of the context and conditions, existing development activity; a summary of findings, and a statement of conclusions and recommendations.

Understanding of Context and Conditions

In the early 2000's the City of Seattle adopted a policy strongly discouraging vehicular site access in new downtown developments from public streets or avenues which had been the prior acceptable practice. The policy changed, requiring garage access from alleys when a new development site abutted an alley. Further, downtown zoning encourages very high density development, creating a concentration of activity along the alleys. Existing 16 foot wide alleys with protrusion of building fixtures into the alleys (downspouts, water connections, air conditioners, etc.), the need for trucks serving existing businesses to use the alley for deliveries; and the lack of off-alley storage of trash receptacles for existing businesses reduces the effective alley width to less than 12 feet in many locations. The City standard calls for widening the alleys to a full 20 feet by requiring new developments to dedicate two (2) feet of private property on the development side of the alley. Existing established buildings (especially in the subject area with many viable and/or historic buildings) makes full widening along the entire length of most alleys unlikely to occur for many years, if ever. The combination of these characteristics limits two-way traffic circulation (and even one-way circulation) and precipitates a number of access and safety problems that were not apparently envisioned when the Zoning Code revisions were drafted.

Accordingly, this study is intended to document the character of development that is occurring as a result of the zoning changes; document the physical characteristics of the alleys on both sides of Second Avenue between Union and Lenora Streets; summarize

observations of the effects relating to these newer zoning provisions; and offer some suggestions for mitigating these conditions.

Development Activity and Alley Inventory in the Study Area

To understand the intensity of development we have utilized publicly available project descriptions and the Transportation Impact Analyses of several projects in order to illustrate the cumulative effect of allowable development density along this five block corridor of Second Avenue and the alleys east and west of this Second Avenue corridor. This summary is presented in Table 1 below.

Table 1. Development and Parking Stall/Access Summary

Address	Development				Parking Stalls	
	Residential (Units)	Hotel (Rooms)	Office Area (SF)	Retail Area (SF)	Without Alley Access	With Alley Access
Existing						
1401-1415 2 nd Avenue	194			102,000	353	
2000 1 st Avenue	80			7,000	101	
1521 2 nd Avenue	143			2,800		298
119 Pine Street			25,500	5,000		24
1915 2 nd Avenue	249			3,220		244
101 Stewart Street			100,000			32
Under Construction						
204 Pine Street	398			4,300		246
1608 2 nd Avenue		230				114
2015 2 nd Avenue	314			7,854		304
1900 1 st Avenue	75	110		13,170		325
1430 2 nd Avenue	290					389
Under Review						
1931 2 nd Avenue		205				51
1613 2 nd Avenue	177			2,800		145
1516 2 nd Avenue			150,000	30,000		130

This shows the zoning is permitting over 1920 new multifamily units, 545 hotel rooms, 275,500 sf of office space and 177,000 sf of retail space. In addition there will be 2300 parking spaces. This is occurring in only ten blocks within the downtown. Development in other sections of downtown along the Third, Fourth and Fifth Avenue corridors add to this extraordinary level of development. Eighty-five percent (85%) of the parking, all of the delivery, and all of the service activity associated with these buildings are exclusively reliant on the alleys for these functions.

An inventory of alley conditions was made within the study area. This inventory is summarized on Table 2 below.

Table 2. Alley Conditions

From	To	Normal Width	Percent Of Block	Width Limitations	Effective Width
West of 2nd Avenue					
Union Street	Pike Street	18 ft	100%	GB, C, D & V	15 ½ - 17 ft.
Pike Street	Pine Street	16 ft	60%	GB, C, D, V & B	13 ½ - 15 ½ ft.
		18 ft	40%	GB, C, D & V	15 ½ - 17 ½ ft.
Pine Street	Stewart Street	18 ft	38%	C, D, V & B	16 ½ ft.
		16 ft	62%	GB	13 ½ ft.
Stewart Street	Virginia Street	20 ft	50%	F & G	18 ½ ft.
		18 ft	50%	GB, C, D & V	15 ½ ft.
Virginia Street	Lenora Street	20 ft	80%	B	18 ½ ft.
		18 ft	10%	B	16 ½ ft.
		16 ft	10%	GB, C, D, V & B	13 ½ - 15 ½ ft.
East of 2nd Avenue					
Union Street	Pike Street	18 ft	50%	C, D, V & B	17 – 17 ½ ft.
		16 ft	50%	GB, C, D, V & B	13 ½ ft.
Pike Street	Pine Street	16 ft		GB, C, D, V, B, F & G	11 – 15 ½ ft.
Pine Street	Stewart Street	18 ft	100%		18 ft.
Stewart Street	Virginia Street	16 ft	100%	C, D, V, F & G	14 ½ - 15 ½ ft.
Virginia Street	Lenora Street	16 ft	34%	C, D & V	15 ½ ft.
		18 ft	66%	B	17 ft.

GB – garbage bins; C, D & V – conduit, downspouts, ventilation ducts; B – bollards and building corner protection; F & G – fire valves or gas meter.

This shows that only 15% of the 10 alley blocks parallel to the Second Avenue corridor will have 20 foot alley widths for the foreseeable future. It is not likely that many of the existing building sites will be redeveloped in any reasonable time period because their current value and use does not make this feasible. Thus, the conditions observed today are not likely to improve for many years, if at all.

It is essential to note that the physical width shown in this inventory is not the functional or effective width. All of the buildings, even some recently constructed structures, have downspouts, gas meters, water valves, air conditioning units and other physical improvements attached to the sides of their buildings that restrict the vehicle travel path. These extend from the building face and reduce the effective width of the alley. Further there are trash receptacles in many alleys that further reduce the effective width of these alleys. When combined, the physical width is reduced by a minimum of six (6) inches to six (6) feet in almost every alley. An estimate of the resultant effective width is shown in Table 2.

Even in the best of conditions it is difficult to have two vehicles traveling in opposite directions pass each other. A study performed by TSI in a similar alley (with much less intense development than summarized above) found that a vehicle traveling one-way could not traverse a one block section of a 16 to 18 foot wide alley 40% of the day due to service/delivery vehicle blockages, trash containers, or cars parked to drop off

passengers. It should also be noted that even in buildings with truck loading bays, delivery drivers do not want to take the time to get building managers to open the secured loading area and load/unload from the alley. With mirrors, these trucks are eight (8) feet wide making it impossible for another car to pass either way in an alley. Cars need a nominal width of 7 ½ ft. of width to clear their mirrors.

Findings and Observations

Based on the above, for the alleys on both sides of Second Avenue from Union to Lenora Streets, we have identified the following items and issues. We believe these issues should be addressed by Land Use Code revisions and should therefore be considered by the Design Review Boards, Seattle Department of Construction and Inspections (SDCI) and/or the Seattle Department of Transportation (SDOT) in their review of new development.

- If there is another car or a truck loading from the alley it more often than not is impossible for a car to enter or exit to or from the street between the blockage and the garage entry/exit. Thus the majority of traffic generated by any of the existing and listed developments will first attempt to enter/exit the particular garage via the nearest street and if passage is blocked will attempt to back out over the sidewalk. The combination of existing building users and our understanding of planned new users combined with growing trend of increased truck and delivery activity will likely generate noticeably restricted access to or from one or both ends of these alleys.

These restrictions will cause drivers to back out across sidewalks and into traffic in an effort to access their garages. This not only adversely affects traffic operations but also impact both pedestrian and vehicle safety.

- When the City Center Connector Streetcar is constructed on Stewart Street, there will be only a single westbound lane and entering vehicles going south across the double tracks into the alleys east and west of Second Avenue will need to wait for the vehicles exiting the alley to pass. When an entering vehicle needs to wait to enter the alley the vehicle will either block the streetcar tracks, the sidewalk or the one remaining westbound traffic lane on Stewart Street before they enter the alley going south.
- The combination of the concentrated pedestrian volumes, the sightline restrictions, and the streetcar conflicts on all east-west streets will clearly contribute to both pedestrian and vehicle collisions at these alley/sidewalk crossings in the study area.
- The traffic forecasts and intersection levels of service in project specific Transportation Impact Analyses we have reviewed in this five (5) block corridor appear not to have considered the exceptional high pedestrian volumes on all east-west streets and particularly Pike Street, Pine Street, and Stewart Street, all considered gateway pedestrian routes to and from the Pike Place Market. The pedestrian volume effect on intersection traffic levels of service has been underestimated. While it is assumed that the majority of new project occupants will

commute by some non-automobile mode, if only a fraction of the development users use their cars, they will noticeably add to the traffic volume. Their counterparts who do use transit or walk will add to the pedestrian volumes in these corridor intersections.

- The mode split analysis of the individual projects' Traffic Impact Analysis rely on rideshare services to offset the resident driver trip generation. In fact there will be two automobile trips for each rideshare or carpool resident drop-off (one trip dropping off the resident/visitor and another trip exiting after the resident visitor has been dropped off). While these services may reduce overall trips in the downtown and reduce parking demand, they create new trips at the point of origin/destination. A consolidated location for this type of pick-up and drop-off activity should be established.

Recommendations

As an overarching observation, TSI's review of projects in this Second Avenue corridor and other downtown core development proposals finds that, while permitted by the Land Use Code, the combination of very high density development and reliance on alley access as exclusive vehicle garage access and truck loading is having an adverse cumulative effect. That effect is to concentrate vehicle activity along the alleys which, even with setbacks, is often too narrow for two-way traffic flow (or often even one-way traffic flow) due to preexisting constraints. These alleys were originally designed to be the utility access for truck delivery, with alley face-of-building loading docks and external trash receptacles. These alleys are now being asked to accommodate significantly greater levels of activity by commercial drivers; increased numbers of trash and recycling containers; and new resident, employee and visitor access and loading.

More significantly is that required parking garage access exclusively from an alley generates congestion and concentrates vehicle/pedestrian conflicts where the alley terminates at the sidewalk, creating an unintentional safety hazard. Mirrors, flashing beacons, and audible warning devices can reduce this risk but is that consistent with a quality downtown experience that is the objective of a vibrant downtown? We trust the effect of these unintended but real safety impacts will start to be considered more seriously by the City when conditioning major new developments. The findings of this study conclude that the existing ordinances relating to alley use and public safety, as referenced in Attachment A of this report, are not being followed. This is because of the growing development density and its almost exclusive reliance on alleys for major new garage access and the service vehicle uses in this highly pedestrian oriented neighborhood.

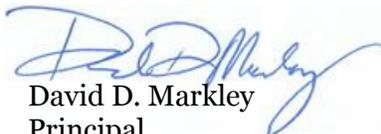
Rather than address this issue on a development-by-development basis it may be more prudent to consider some Land Use Code changes to partially mitigate the effects of intense development exclusive reliance on the alleys for access and alley blockage generated by normal delivery and service activity. Such provisions could include the following Land Use Code changes:

1. Require all new tower projects with alley frontage and without issued Building Permits to provide additional off-alley space within the new developments for loading, trash and recycle facilities to serve existing buildings on those alleys that do not have such off-alley spaces. This will at least allow alleys to be more available for vehicles to access existing and new garages.
2. Require garage entries be setback at least two car lengths (40 feet) from where the alleys terminate at the back of sidewalks to provide space for cars entering and exiting the alley adjacent to the pedestrian sidewalks and enhance visibility of pedestrians.
3. Require detailed sightline analysis be prepared to ensure that drivers entering and exiting alleys can be provided clear visibility of the sidewalk areas. Consider chamfering the building corners at alley/sidewalk intersections to improve sightlines for pedestrians and drivers. Even with parabolic mirrors these sightlines will be difficult with drivers focused on the narrow two-way alleys.

Contrary to the view of most Design Review Board Members, these issues should not be left only to the City's SEPA review of Traffic Impact Analysis studies. This is because in urban areas, changes to the garage access and truck delivery, affect the internal functions and design of the buildings. This is key to providing pedestrian and vehicle safety in the downtown and particularly in high pedestrian volume areas with east-west streets connecting the retail core and the Pike Place Market. Likewise, a clear understanding of the cumulative background traffic volume from the many recently permitted residential and commercial buildings in the area should be updated to ensure forecasts are more reliable.

I trust this review starts to demonstrate the unintended consequences associated with concentrating access and loading of high density development on the narrow downtown alleys. If you have any questions, I welcome your call.

Sincerely,
Transportation Solutions, Inc.


David D. Markley
Principal

Cc. Leigh Valentine, Newmark Tower Condominium
Brian Estes, Cristalla Condominium
Tom McClory, One Pacific Tower
Jane Cardell, 98 Union Condominium
Jo Vandersnick, Market Court Condominium
Nicholas Wilkens, Fisher Studio Condominium

Attachment:

Attachment A Traffic and Land-Use Code References

Seattle Municipal Code, Title 11-Vehicles and Traffic

- 11.14.025 – Alley
“Alley” means a highway not designed for general travel and primarily used as a means of access to the rear of residences and business establishments.
(RCW 46.04.020)
(Ord. 108200, 2(11.14.040), 1979.)
- 11.58.290 – Alley – Backing from or to.
No person shall back any vehicle into or out of any alley; Provided, that this section will not apply when backing is done under the guidance of a person whose duty is to direct the driver’s movements with safety.
(ord. 108200, 2(11.58.290), 1979.)
- 11.58.230 – Emerging from alley, driveway, private property, or building.
Except as directed otherwise by official traffic-control devices, the driver of a vehicle emerging from any alley, driveway, private property, or building shall stop such vehicle immediately prior to driving onto a sidewalk or onto the sidewalk area extending across any alley or driveway, or onto a public path, and shall yield the right-of-way to any pedestrian or bicyclist as may be necessary to avoid collision, and upon entering the roadway of a street shall yield the right-of-way to all vehicles approaching on the roadway. (RCW 46.61.365)
(Ord. 108200, 2(11.58.230), 1979.)
- 11.14.040 – Alley entrance.
“Alley entrance” means that portion of the street which provides access to an alley through a curb cut or depression in the constructed curb or, when there is no constructed curb, that area in front of such alley as is well defined or as is designated by authorized signs or markings. “Alley entrance” shall include an alley exit for one (1) way alleys.
(Ord. 108200, 2(11.14.045), 1979.)
- 11.14.295 – Load and unload zone.
“Load and unload zone” means a designated portion of the street or alley reserved for the use of vehicles for the purpose of expeditious pickup and loading or unloading and delivery of persons or property.
(Ord. 108200, 2(11.14.495), 1979.)
- 11.74.010 – Loading in alleys.
No person shall stop, stand or park in a commercial vehicle or a vehicle displaying a valid commercial loading permit in any alley for any purpose or length of time other than the expeditious unloading and delivery or pickup and loading of property and then in no case shall such parking for loading and unloading of property exceed thirty (30) minutes.

(Ord. 114518 7, 1989; Ord. 108200, 2(11.74.010), 1979.)

- 11.72.020 – Alley
No person shall stand or park a vehicle except a commercial vehicle, a vehicle displaying a valid commercial loading permit, or authorized emergency vehicle in an alley.
(Ord. 114518 4, 1989; Ord. 114251 5, 1988; Ord. 108200, 2(11.72.020), 1979.)
- 11.72.025 – Alley – Driveway.
No person shall stop, stand or park a vehicle within an alley in such a position as to block the entrance to any abutting property. (RCW 46.90.433(2))
(Ord. 108200, 2(11.75.025), 1979.)

Land-Use Code section 23.54.035 – Loading berth requirements and space standards

- 23.54.035.C.1 – Width and Clearance.
Each loading berth shall be not less than ten (10) feet in width and shall provide not less than fourteen (14) feet vertical clearance. And section C.2.c(ii) would allow a 20 foot depth.
- 23.54.035.C.3
For uses not listed in Table A, the Director shall determine the loading berth length requirements. Loading demand and loading requirements for similar uses shall be considered.
- 23.47A.032 – Parking location and access
D. Exceptions to parking location and access requirements.
Access to off-street parking may be from a street if, due to the relationship of an alley to the street system, use of the alley for parking access would create a significant safety hazard as determined by the Director.