

Research Report
Research Project T9903, Task 69
Learning from Truckers

**LEARNING FROM TRUCKERS:
MOVING GOODS IN COMPACT, LIVABLE URBAN AREAS**

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LEARNING FROM TRUCKERS: **MOVING GOODS IN COMPACT, LIVABLE URBAN AREAS**

Introduction. This summary describes the key findings of a Washington State Department of Transportation project that is documented more fully in the research report "Learning from Truckers: Moving Goods in Compact Livable Urban Areas." The purpose of this study was to learn directly from professional truck drivers about ways to retrofit and plan anew compact urban centers than can serve multiple mode and multiple users while creating livable communities.

Research Approach. The study utilized focus groups to engage truck drivers in a guided group interview and discussion. Four focus groups were held in the Seattle metropolitan area. Participants worked in urban and suburban centers for a number of companies and used a variety of equipment ranging from 20-foot step vans to 53-foot tractor-trailer combinations. The focus groups were led by the study team staff, who were aided by a discussion guide developed through interviews with key informants in the trucking, logistics, urban design and planning, and real estate development communities. The intent, successfully achieved, was to gain the participants' insights and perspectives about what design, regulatory, enforcement, or management factors facilitate or impede their ability to carry out their jobs, as well as to gain suggestions for improvements.

Findings. Goods delivery in urban areas is highly competitive, time sensitive, and essential for a broad array of enterprises. Truck drivers are constrained and stressed by many design, enforcement, and management decisions of which policy makers and planners should be aware and which can be modified to make urban centers work better for pedestrians, businesses and vehicles. Focus group findings are highlighted below:

- Freight and package delivery and pickup begins early and continues until late in the day necessitating curb space loading zone availability throughout the day. These load zones should be long enough to accommodate trucks, should be placed at block ends or at either side of an alley entrance to a street, and should be for the exclusive use of trucks.
- Alleys are an excellent service/delivery environment if a one-way protocol is observed; if trash dumpsters, homeless people and low hanging fire escapes are controlled; and if pull-outs for passing are incorporated in alley design.
- Truckers can co-exist with pedestrians. Wider sidewalks and pedestrian corner bulbs do not pose a problem. All-way crosswalks at intersections would provide greater certainty and safety in making turns at intersections.
- Loading and receiving entrances to downtown office and commercial buildings should have street level signage that indicates loading space availability, and the entrances should be sized and angled for reasonable access by trucks.
- Management within large office buildings should provide expandable levels of freight elevator service to accommodate peak delivery periods and should provide internal mail or centralized package delivery systems, which could reduce truck parking times.
- Truck drivers want to inform and influence architects, designers, planners, and transportation engineers as urban centers are created and retrofitted.

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EXECUTIVE SUMMARY

PURPOSE

The purpose of this study was to learn directly from professional truck drivers about ways to retrofit and plan anew compact urban centers that can serve multiple modes and multiple users while creating livable communities. The need to understand how to best accommodate goods movement *in conjunction with* other urban center functions and qualities (i.e., healthy retail and service sectors, pedestrian friendliness) is of particular importance for cities, counties, and regions planning under the state's Growth Management Act and for the development community that will build the urban centers.

APPROACH

The study utilized focus groups, a form of qualitative research, to engage four to eight truck drivers in a guided group interview and discussion. Four focus groups were held in the Seattle metropolitan area. Teamsters Union Locals were instrumental in involving drivers in the groups. Participants worked in urban and suburban centers for companies including United Parcel Service, Roadway Express, Darigold Inc., Safeway, and Peninsula Truck Lines and used a variety of equipment ranging from 20-foot step vans to 53-foot tractor-trailer combinations. The focus groups were led by the study team staff, who were aided by a discussion guide developed through interviews with key informants in the trucking, logistics, urban design and planning, and real estate development communities. The intent, successfully achieved, was to gain the participants' insights and perspectives about what design, regulatory, enforcement, or management factors facilitate or impede their ability to carry out their jobs, as well as gain

suggestions for improvements. This report does not attempt to analyze the feasibility of these insights and suggestions.

FINDINGS

Goods delivery in urban areas is highly competitive, time sensitive, and essential for a broad array of enterprises ranging from professional services in high rise office towers to mom and pop corner grocery stores. Truck drivers are additionally constrained and stressed by many design, enforcement, and management decisions of which policy makers and planners should be aware and which can be modified to make urban centers work better for all parties. Focus group findings are highlighted below.

- Freight and package delivery and pick up begins early and continues until late in the day necessitating curb space loading zone availability throughout the day. These load zones should be long enough to accommodate trucks, should be placed at block ends or at either side of an alley entrance to a street, and should be for the exclusive use of trucks (not fancy cars with commercial plates).
- Alleys are an excellent service/delivery environment if a one-way protocol is observed; if trash dumpsters, homeless people, and low hanging fire escapes are controlled; and if pull-outs for passing are incorporated in alley design.
- Truckers can co-exist with pedestrians. Wider sidewalks and pedestrian corner bulbs do not pose a problem. However, predictability is of key importance to truck drivers as their vehicles are large and hard to stop and maneuver. All-way

crosswalks at intersections would provide greater certainty and safety in making turns at intersections by designating traffic flow for either vehicles or pedestrians.

- Loading and receiving entrances to downtown office and commercial buildings should have street level signage that indicates loading space availability, and the entrances should be sized and angled for reasonable access by trucks.
- Management within large office buildings should provide expandable levels of freight elevator service to accommodate peak delivery periods and should provide internal mail or centralized package delivery systems, which would reduce truck parking times.
- Truck drivers want to inform and influence architects, designers, planners, and transportation engineers as urban centers are created and retrofitted.

RECOMMENDATIONS

Truck drivers provided valuable information that reinforces Washington state's leadership role in understanding the relationships between freight/urban goods movement and the development of livable urban centers. To infuse this knowledge into policy and development decisions, we recommend the following:

- Establish a forum where truck drivers; industry leaders; building owners and managers; city, regional and state transportation officials; architects; planners; and urban designers can learn from one another.

- Develop guidelines, based on our research findings and the above forums, for implementation that will create or retrofit urban centers to gracefully and efficiently accommodate people, goods, and commerce.

PART I-RESEARCH APPROACH AND FINDINGS

INTRODUCTION

PURPOSE

The purpose of this study was to learn directly from truck drivers about ways to retrofit and plan anew compact urban centers that can serve multiple modes and multiple users efficiently while creating livable communities. No one knows the roads, traffic patterns, urban form, design constraints, and their inter-relationships better than truck drivers. Yet to our knowledge there has never been an organized effort to learn from truck drivers themselves how to modify the existing urban freight transport infrastructure or how to design new roads, load/unload areas, or crosswalks to promote better freight movement and co-existence with other functions vital to healthy urban centers.

Washington State's Growth Management Act (GMA) concentrates growth in existing urban and suburban communities in an attempt to reduce sprawl development that depletes open and natural spaces. As suburban areas transform into urban centers through infill, and as urban centers are retrofitted to become increasingly pedestrian oriented, it is important that freight movement issues be understood and incorporated into the physical and functional pattern. A thriving urban environment is, in part, dependent upon the efficient movement of goods.

This report is intended to increase understanding of the factors that affect freight movement in urban centers by providing insights and perspectives of the professionals who drive our busy streets everyday. The report does not attempt to analyze the feasibility of the proposals and perspectives that came out of discussions with truck drivers.

APPROACH

As our research methodology we organized and facilitated focus groups comprising urban area truck drivers. Through a literature review and key informant interviews we developed carefully constructed questions regarding the interplay of freight movement with other forms of social and commercial exchange in urban areas. We used these points of inquiry in a series of four structured focus groups with truck drivers and then transcribed and analyzed the results.

Focus groups are a form of qualitative research in which four to eight carefully selected participants are interviewed in a group setting. Such a setting increases the efficiency of interviewing, and the interaction among group members may lead to more insightful responses than those attained through individual interviews. Success is not based on quantitative measures of reliability and confidence levels; rather, it is attained at the point in the third or fourth group when the leader can anticipate responses that begin to converge on specific topics.

We recruited participants with the assistance of the, Teamsters Local Unions 174 and 741 and Darigold Inc. Groups met after work over dinner. Two groups were held in the downtown Seattle area, and two were held in busy suburban center locations. Participants worked for companies including United Parcel Service, Darigold, Roadway Express, Peninsula Truck Lines, and Safeway. A list containing the names of participants and focus group dates and locations is on page 51 of this report. A copy of the guide used by the focus group facilitator begins on page 45.

To assist and guide us in our research we created an advisory group representing the Washington State Department of Transportation (WSDOT), the Puget Sound Regional Council (PSRC), the Regional Freight Mobility Roundtable, Teamsters Union Locals, trucking firms,

logistics planners, urban designers, and real estate developers. The advisors met three times during the study to provide a sounding board as we designed and implemented our research. The roster of advisors is included on page 49.

FINDINGS AND RECOMMENDATIONS

The primary findings generated from the focus group sessions begin on page 26 of the report. The findings satisfy the principal objective of this study: to gain a greater understanding of freight movement issues in compact urban centers from the most knowledgeable firsthand source, truck drivers. While this study is of a specific region, Seattle, Washington, and the surrounding urban and suburban centers within King County, we believe the findings of the report have broad implications for communities in metropolitan areas throughout North America. We recommend that key findings and knowledge gained from our research be incorporated into guidelines that would provide implementation tools for local, regional, and state planning and transportation agencies and private developers.

SUMMARY OF FOCUS GROUPS

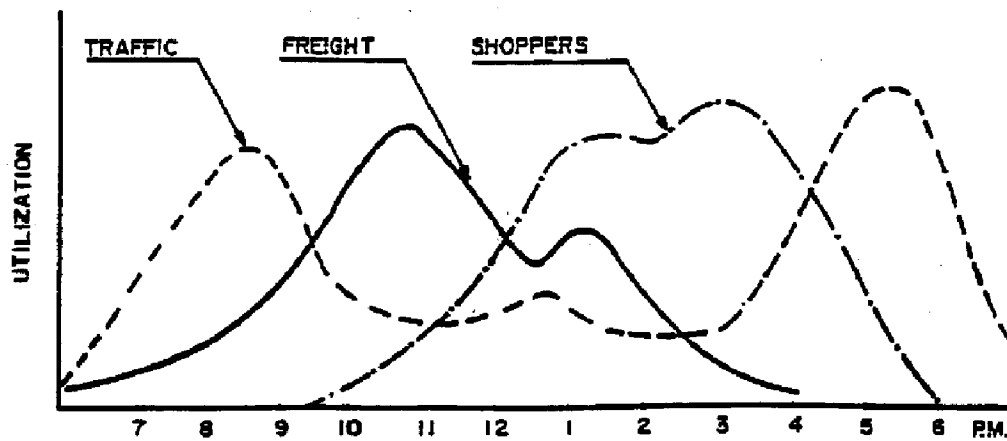
Each focus group began with a question to "break the ice," usually a question about a favorite or worst place to deliver. Results from our interviews with drivers, planners, logistics experts, and builders tended to group into several general categories, which formed the bases of the focus group guide. These categories include curb space issues, alleys, loading docks, congestion, co-existence with other modes, zoning and design, technology, and changes in the industry. We use these headings below to summarize the main points and themes from the four focus groups; these points are highlighted with direct quotes from participants.

CURB SPACE ISSUES

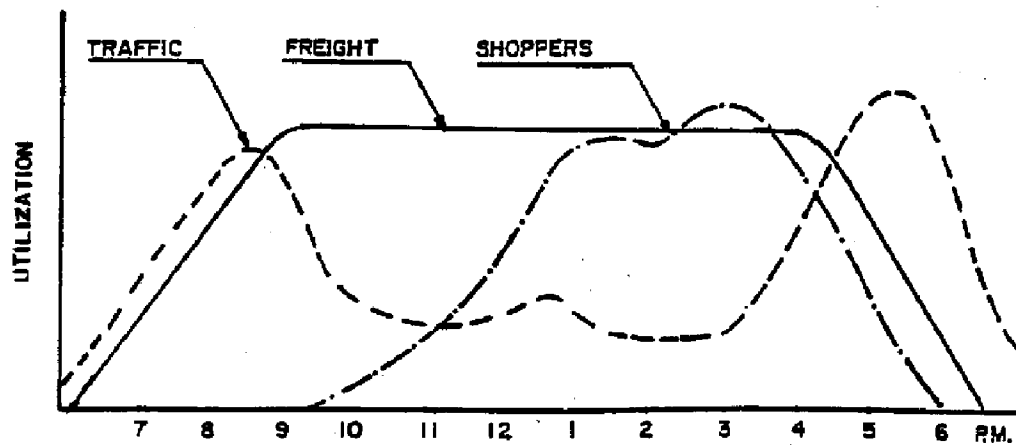
In the context of this study, curb space sharing is primarily a downtown Seattle issue. In more suburban areas, curbs are replaced by parking lots surrounding retail and commercial malls. When asked to draw a graph depicting volume of delivery activity and curb space demand, drivers, almost universally, drew a graph line that showed constant high demand from early morning until evening. This is different than Habib's findings in San Francisco (*Urban Freight Practice-An Evaluation of Selected Examples, 1991*) which showed a felicitous sequencing of curb space needs in which commuter, delivery, and shopping parking demand neatly fit into different time segments during the business day. In these findings, for example, freight and package pick up ended at 4:00 PNI, just as the afternoon commute rush was starting.

What focus group participants identified is that a variety of factors have changed the patterns of package and freight delivery (see Figure 1). These include the following:

- Increased competition among package delivery services; there are simply more companies operating in an unregulated environment.



A. San Francisco Curb Space Use Observed by Habib



B. Seattle Area Curb Space Use Experienced by Truckers

Figure 1. Curb Space Sharing. Focus group participants were presented with a graph (A) from which the freight portion had been removed. They were asked to draw in their freight delivery and pick-up patterns during a typical day. Their results (B) showed a fairly constant level of freight activity from early morning until evening, implying that some curb space loading and unloading capacity needs to be dedicated throughout the business day.

- A greater array and segmentation of time-sensitive delivery services, such as before 8:30 AM, before 10:30 AM overnight delivery, second-day air delivery, and regular package delivery. This has the effect of extending the delivery day, with drivers making two, three, or four delivery stops to the same urban center location during the course of a business day.
- Freight customer demand to expand the business day with earlier and later pick ups. For example Unisource, a wholesale office paper supplier, would like less than truckload (LTL)¹ pick-ups very early in the morning, before the rush hour, so that commercial customers can get delivery at the start of the business day.
- Late afternoon, time-sensitive pick-ups continue past 5:00 PM and would go even later, but UPS drivers must return to their base by 6: 10 PM in order to get packages on flights at the airport for next morning delivery.

Loading and unloading occurs in three principal ways: at loading docks internal to buildings in a ground floor or underground loading facility, at loading docks external to buildings facing an alley or parking area, or at curbside. In Seattle and other urban centers, some curb space is designated as commercial loading zones and is reserved for the use of vehicles with commercial plates and city permit stickers.

¹ LTL freight service refers to pick-ups and delivery, most usually at commercial locations, of goods that do not completely fill a truck box or trailer. Generally speaking, shipments are heavier and larger (300 pounds or more) than package delivery services such as United Parcel Service or Roadway Package Service. The distinction between package delivery service and LTL is becoming increasingly blurred as UPS will now handle freight up to 150 pounds and LTL will handle freight smaller than 150 pounds.

Impediments to utilization of curbside loading zones include the following:

- Too few curb loading zones. In one extreme example, a UPS driver regularly delivers to Redmond's city hall, which has no load zone area. The driver must park illegally—directly across from the Fire Department—in order to serve city offices.
- Loading areas are often too short to accommodate 20- to 30-ft package delivery trucks. Many existing sites are described as being the length of a pick-up truck. This is of particular concern as the industry moves to larger, 28- and 29-foot trucks.
- The 30-minute time limit is often too short, especially when multiple deliveries must be made in larger office buildings, which can take over two hours.
- The spaces are taken up by cars (usually described as BMWs or Lexuses) with commercial plates (see Figure 2). More than any other, this complaint really riled the drivers. They believe that loading zones are intended for truck deliveries and not sales reps and that the situation represents an unfair abuse of the system. They are particularly irked because they believe that loading space is already insufficient, and what little space is available should not be usurped for non-loading purposes.
- Exclusive curbside bus lanes on major downtown streets such as Seattle's 2nd and 4th avenues during peak rush hour periods (7:00 to 9:00 AM and 4:00 to 6:00 PM) also remove loading zones from use, forcing drivers to park in the bus lane and risk a fine or find parking on east-west streets.

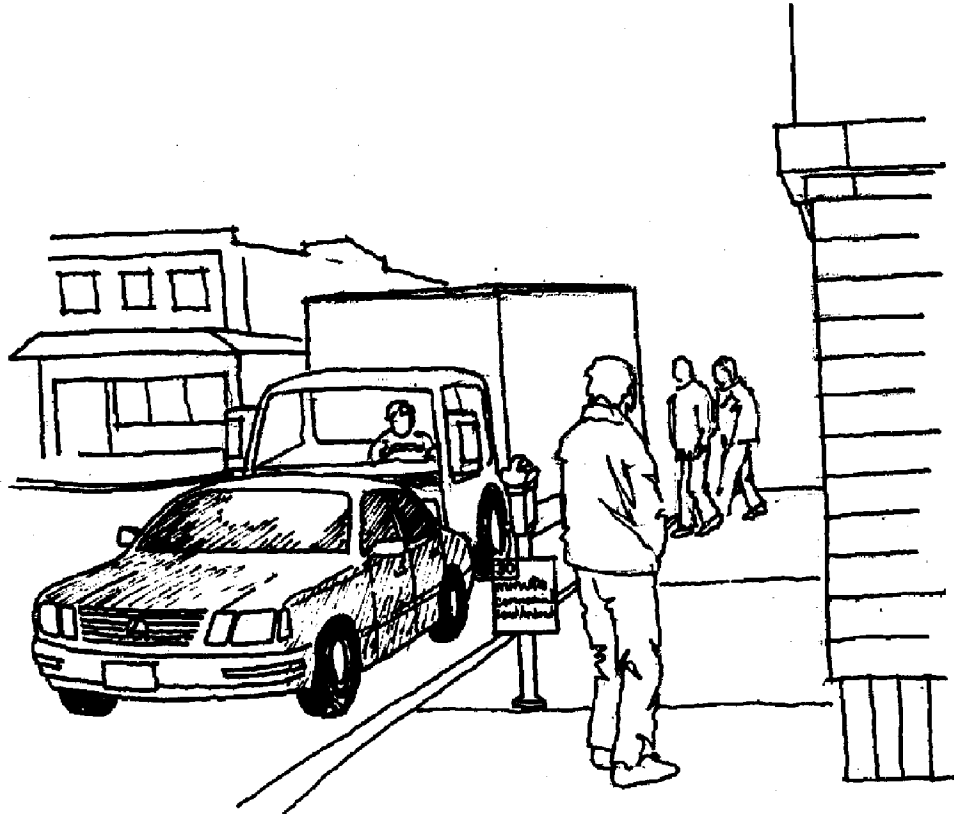


Figure 2. Impediments to Utilization of Curbside Loading Zones. Truck drivers were frustrated by expensive cars with commercial plates parked in loading zones.

In downtown Seattle with curbside truck zones, it is not uncommon at all for UPS, Roadway, Consolidated Freightways, and any other carrier to circle the block six or eight times and go by a truck zone because you can't get in it because of the Lexus and the Mercedes Benz that are sitting in the truck zone with the commercial trucks. Now what happens in a case like this? You're an urban planner. The downtown businesses, they can't get their merchandise in a timely manner, so they get frustrated. Parking is at a ,premium. The truck drivers or the carriers can't get in the commercial zones because they have sold truck plates and commercial tabs to these people with the Lexus and the Mercedes Benz. So what do we do? How do we get the freight to these people? The companies they get frustrated, and what do they do? They say, "To heck with you, I'll go to the suburbs. "

Suggestions for improving curbside loading zones include the following:

- Reserve loading zones exclusively for truck load and unload, not autos with commercial plates.

- Make the zones at least 30 feet long (see Figure 3).
- Locate zones at ends of blocks (as they are presently) so trucks are not hemmed in at both front and back by other vehicles.
- Where there are alleys on side streets, locate the loading zones on either side of the alley entrances (see Figure 4).

ALLEYS

Alleys are heavily used in Seattle and in the central, usually older, portions of several smaller cities in the metropolitan area including Kent, North Bend, Auburn, and Enumclaw. Alleys provide freight and service access for businesses and buildings that is protected from through traffic. However alleys' potentials are not being maximized for a variety of reasons, according to participants:

- It is too easy to get stuck in an alley with vehicles ahead or in back.
- Alleys are so narrow that it is impossible for two vehicles to pass.
- Alleys are too cluttered with other objects, the primary offender is garbage dumpsters that protrude into the alley or fire escapes (see Figure 5a).
- Alleys are used by homeless people and drug abusers. Drivers report having to physically move individuals out of their paths in order not to run them over. Drug paraphernalia and unhygienic conditions make alleys unpleasant and unhealthy.
- Alley protocol in Seattle has been to travel one way, south to north. As this system breaks down, the potential of getting "caught" in an alley increases. Drivers want to avoid backing up as much as possible, as it is much more dangerous, especially in congested areas.

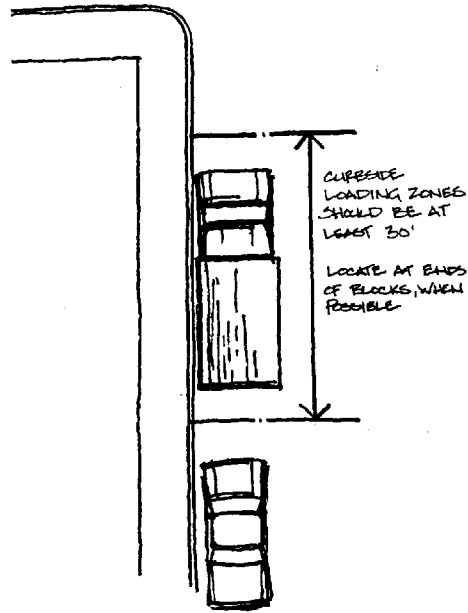


Figure 3. Suggestion for Improving Curbside Loading Zones. Make the zones at least 30 feet long; locate zones at ends of blocks (as they are presently).

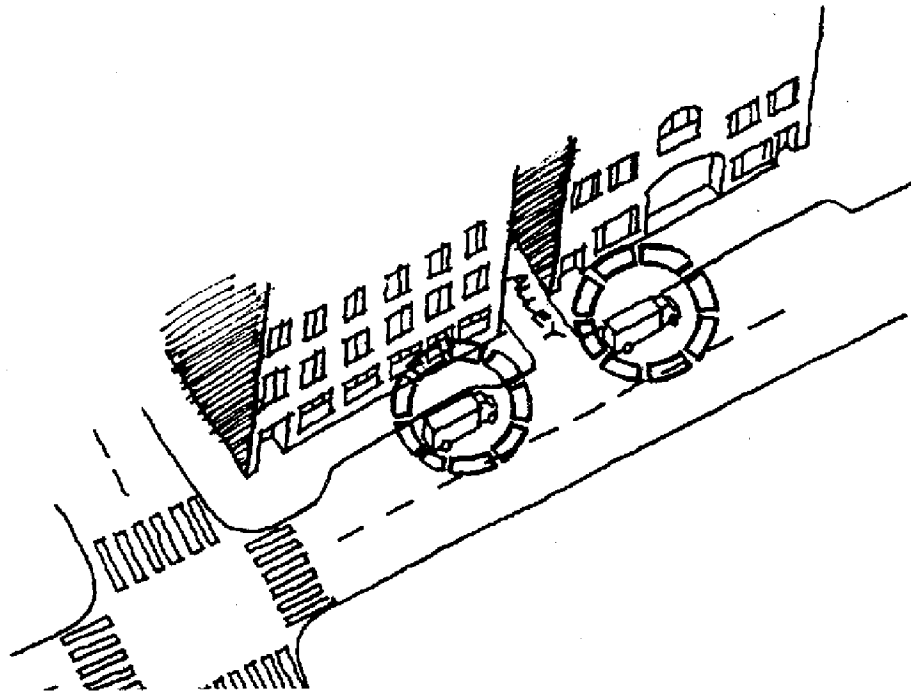


Figure 4. Suggestion for Improving Curbside Loading Zones. Locate east-west curbside loading zones on either sides of alleys.

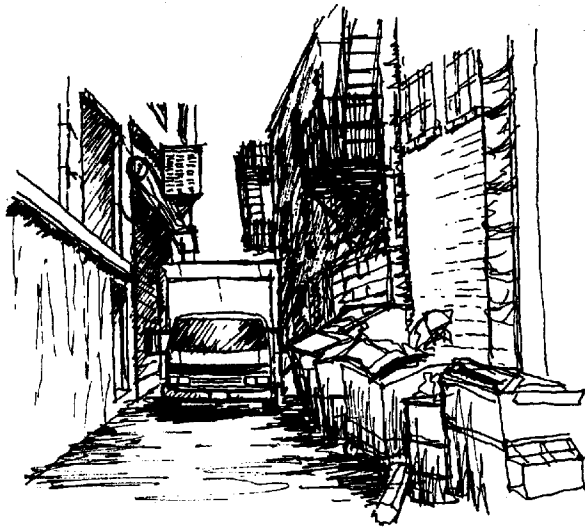


Figure 5a. Alleys. This alley is cluttered with objects (garbage dumpsters, fire escapes) that impede its use for freight and service delivery.

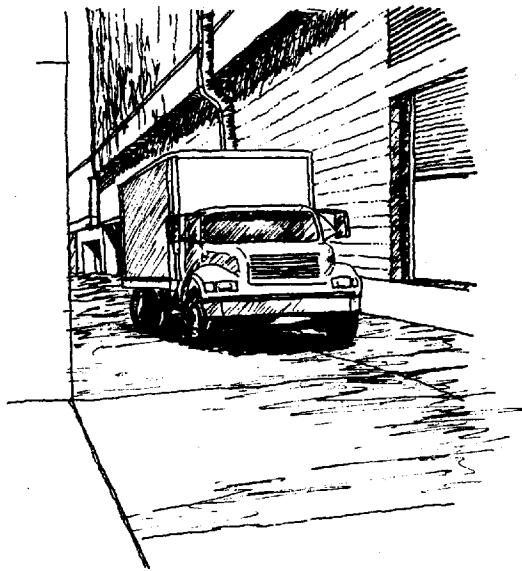


Figure 5b. Alleys. The newer structures abutting this alley incorporate features that maximize freight and service access, including built-in spaces for dumpsters and loading/unloading.

That's the biggest fear I think most of our people have, is getting in an alley and having another truck get in front of you and either you're going to have to back out of it or you can't get out at all. The scenario that all of us truck drivers are taught.- you back out as a last resort.

Drivers serving areas such as Federal Way and Redmond reported two phenomena regarding deliveries to the back door of stores in strip malls (the suburban equivalent to the alley). The first is the increasing fear of crime: small shop owners, who often operate alone or with few personnel, are afraid to open their rear door to receive deliveries. In some cases regular drivers have developed special signals or knocks that announce their presence; in others, the drivers must arrange to deliver through the front door, rendering the back door useless.

Second, most fast food restaurants and many convenience stores will only accept back door, consolidated deliveries at specified times. By minimizing the number of deliveries, these operations reduce the personnel required to staff a receiving area and try to reduce the threat of crime from a second, unprotected entrance point to the building. It seems noteworthy that Seattle drivers did not mention crime or fear of crime as a factor.

Participants suggested several ways to maximize alleys' potentials for delivering goods. They include the following:

- Make alleys wider in places with pullouts.
- Design building walls that face alleys with alcoves for garbage dumpsters, thereby freeing the full width of the alleyway for vehicles (see Figure 5b).
- Re-emphasize the one-way alley etiquette.
- Enforce no-alley-parking rules for non-commercial vehicles.
- Design building fire escapes for minimum clearance (13'6" above grade).

- Clean, patrol, and light alleys.
- Maintain alley surfaces.

I would suggest that one of the things architects and engineers should design into these malls would be a window in back doors where they could see out but you could not see in. So when they have an intercom system and a door buzzer, when they go to the back, they can look through the door and see who it is, Roadway Express or UPS or whomever. Then they would not be afraid to open the door.

LOADING DOCKS

I walk onto a dock, and I say architects receive five years of schooling to get a degree and they don't spend five minutes on a loading dock. I realize that there are factors involved in it that are beyond the architect's control—financial considerations, the expense of doing the job right-but I swear that if the architect had to back this tractor and trailer into the dock, it would have never been arranged this way.

Drivers identified three types of loading dock situations in urban and suburban centers:

- the urban office building ground-floor or underground facility
- urban grocery and commercial
- suburban grocery and commercial.

Urban Office

If ever there is a requirement to move a very large object in a confined space, this is it.

Physical design features and facilities management both play significant roles in making urban office loading docks pleasant, functional, or horrible from the drivers' perspective.

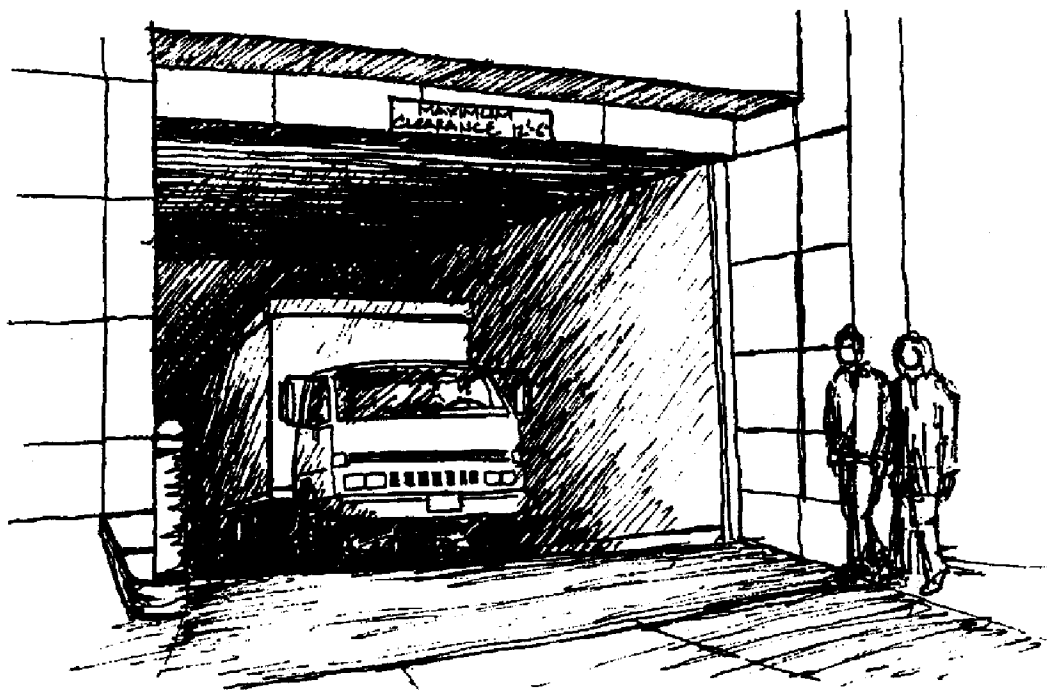


Figure 6a. City Centre. A mild angle to the street and generous width provide a safe exit for this truck, with a high level of visibility for the driver, pedestrians, and street vehicular traffic.



Figure 6b. Street-Level Sign. The signalization at street level announcing space availability is very helpful for drivers, who often find themselves "stuck" in a full loading dock when not provided with this information before entering.

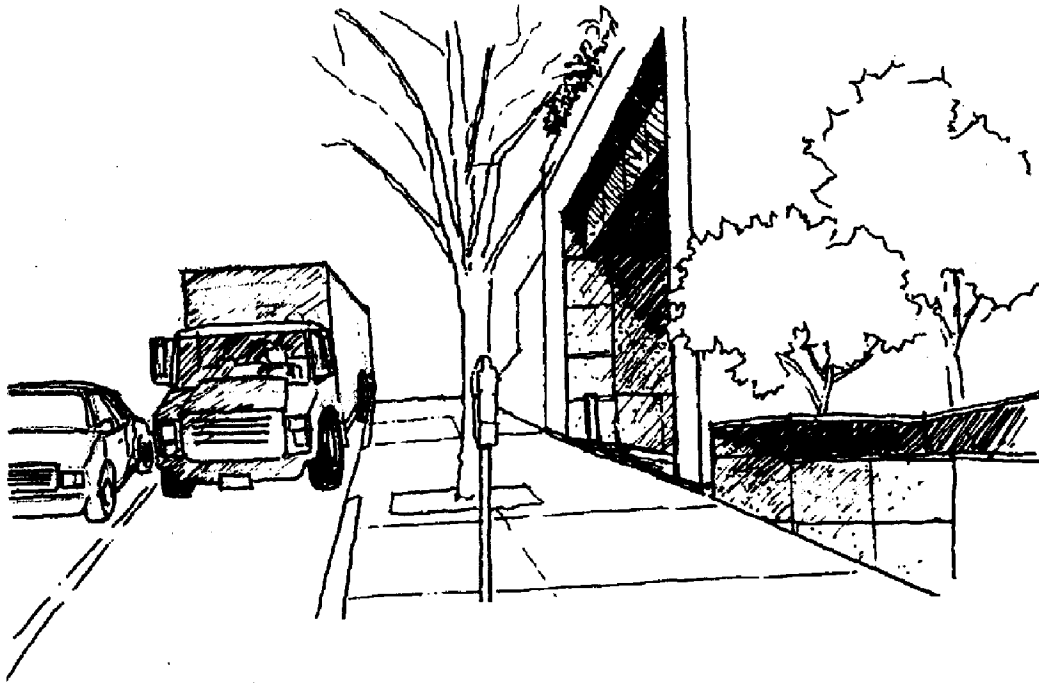


Figure 6c. Columbia Seafirst Center. Trucks approach the building going down a steep hill on a one-way street into a "fight" entrance at a right angle to the street. It is better if the entrance is more level and at a milder angle to the street.

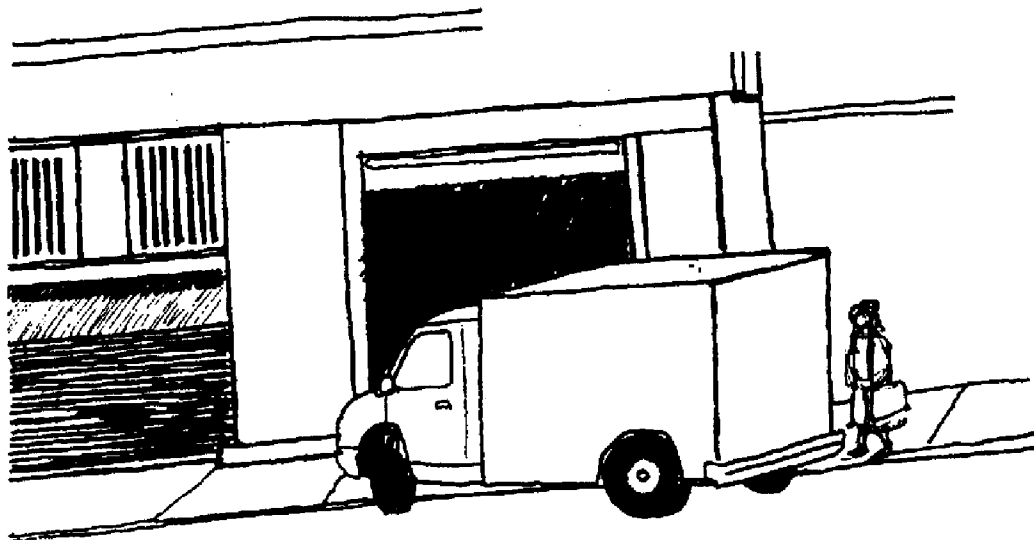


Figure 6d. Westin Hotel. The right angle turn from the street and the narrow entrance make maneuverability difficult.

The approach to the building makes a big difference (see figures 6a-d); the worst examples, such as the Columbia Seafirst Center, have trucks approach the building by going down a steep hill, on a one-way street, into a "tight" entrance at a right angle to the street. This requires a large truck to swing wide to enter, blocking one or two lanes of traffic. The best have more level entrances at milder angles to the street. The worst examples have no street level signage telling drivers whether loading dock space is available and have only one combined entrance/exit. The best examples, such as Westlake Mall (which has a street level sign, but horrible maneuverability once inside), have some kind of signalization. at street level announcing space availability and separate entrances and exits so pass-through is possible. The US West building was often cited as an excellent example of combining design and management solutions in a limited space. The loading area is a large turntable, like a railroad roundhouse or cable car turnaround. The driver enters the turntable, and the loading area manager turns the truck to the selected loading dock. After unloading has been completed, the truck is pointed forward to exit the building.

Participants identified these downtown buildings as having either good or bad loading dock facilities and freight access:

<u>Good</u>	Century Square, City Centre, Convention Center, US West, King County Medical
<u>Bad</u>	Westin, Westlake, Columbia Seafirst Center, Washington Mutual Tower

Urban Grocery and Commercial

Grocery stores like Safeway and QFC locate where people live, often in very dense urban areas such as Seattle's Capitol Hill or Lower Queen Anne in Seattle. The trend for delivery of foods such as milk and bread is to ship in larger and larger tractor trailer

combinations, up to 53 feet long. Larger vehicles make urban neighborhood deliveries increasingly difficult from a physical standpoint. Simultaneously, neighborhood residents want more restrictions on the noise and disruption associated with large trucks. Drivers bemoaned the very tight allowances for loading dock access (often a matter of inches on each side of the truck) and the tendency to have other utilities located immediately adjacent to loading docks, such as gas and electric meters, and garbage dumpsters. These items can easily be damaged or destroyed with the tiniest error. Once the driver has navigated the tight approach, the loading dock itself is often the wrong height for efficient cargo offloading. Examples include the following:

<u>Good</u>	Kirkland Safeway (good access, lighting, and soundproofing), Issaquah Market (has a height adjustable dock plate)
<u>Bad</u>	All QFCs, both West Seattle Safeways, Jefferson Square Safeway, Nordstrom Arcade Building (access is so tight that drivers indicated they simply park on the street and hand truck freight around the corner of the building), new Planet Hollywood building (loading dock is angled the wrong way).

[Issaquah market has] a beautiful dock. I mean it's gorgeous. They have this great dock plate that must be ... first time I've ever seen one of these things ... it must be 6feet long and it lifts up like this and it sets down inside the back of .your truck. It's fantastic.

While the trend is to use larger trucks in both the LTL (less-than-truckload) and package delivery markets, several drivers made the case that a smaller, 24- to 28-foot truck could operate so much more nimbly that a driver could deliver the same amount of goods during a day with less stress because the driver could get around much more easily. As an example of just such a decision, milk deliveries to the two QFC stores on Capitol Hill are now made in 22-ft straight trucks rather than semi-trailers.

Drivers indicated that having a combination of a loading dock and non-dock commercial parking adjacent to one another would be the ideal arrangement.

Maybe they can design a common loading dock and have an area off to the side with adequate parking, safe, well lit for when maybe you don't need a loading dock. If maybe you're UPS and you have 10 lbs. and 3 cartons, you don't need a loading dock for that. But you do need a place to pull over and park. You do need a safe haven to be able to handle your merchandise. So, you know, it is possible if you think it through; you can accommodate everybody here.

Suburban Grocery and Commercial

Suburban patterns have more shopping malls, and strip malls with parking broken by landscaped islands and dividers. Drivers of large trucks said that these make backing up to loading docks, where they exist, very difficult if not impossible, as they are placed to accommodate cars only and not 50-foot trucks. The predictable results are squashed and destroyed landscaping and buffers. Kirkland offers an example of zoning and design solutions to integrate trucks near residential areas. The loading dock in a new Kirkland supermarket is enclosed, sound proofed, and lidded so that light is not diffused into surrounding homes. As in Seattle, truck operations are restricted during the evening.

In many shopping areas, such as strip malls, loading docks do not exist at all, and delivery is made through the store's front door, which is shared with retail customers. This also means that drivers often have no specially designated areas in which to load and unload and must compete for spaces with customers. Shopping mall deliveries are often -made by hand truck through the mall to individual stores. In the Mall of the Northwest in Auburn, trucks are segregated into Service Courts from which hand delivery is made to one of four sectors of the

mall. Many drivers suggested having centralized loading and delivery facilities at malls and major shopping and office complexes.

Examples given include the following:

<u>Good</u>	North Bend Outlet Mall: well lit, loading docks in back with concrete bulkheads, which prevent pedestrians from entering and deter vandalism.
<u>Bad</u>	<p>Mall of the Great Northwest, Auburn: trucks are confined to four "freight service courts" for deliveries to stores without loading docks, which means long walks to these smaller stores.</p> <p>SeaTac Mall, Federal Way: trucks must back up to reach main loading docks next to a major entrance to the mall itself, a pedestrian walkway, and fire lanes. This mixture of traffic, blind spots, and especially foot traffic is dangerous.</p>

Drivers lamented that in many of the suburban warehouse and distribution centers south of Seattle and in the Kent Valley, buildings are packed in, one against another, with little thought about how trucks access loading docks and facilities. One approach drivers suggested is the concept of sharing loading docks:

I have no experience as a driver with UPS type of business, so I cannot speak for you gentlemen. But I know as an LTL carrier, typically the freight that we deliver is considerably heavier, is usually more of it, at least for one particular account. So any time an LTL carrier can go into a loading dock, it's always advantageous. It's faster and it's safer for the product because you're not having to jump up and down out of the back of the trailer and put the cartons on the ground. It's less handling. Everybody gains by a loading dock. Maybe the architects in the design of these strip malls might say, "Suite D is not large enough to warrant their own loading dock, but suite G has more square footage and in conjunction with eight or nine. of these small businesses in the mall we can provide a common dock. "

There was general agreement on the shared loading area concept, but one participant had experienced problems with such an arrangement because there was constant conflict among

delivers for the businesses doing the sharing, especially at peak pick-up periods in the afternoon.

Participants identified two examples of tunnels that provide excellent, grade-separated freight access to a major public facility, SeaTac Airport and a shopping center, Northgate Mall. Northgate, one of America's first shopping malls, was designed with a tunnel to provide freight access to its stores. Several drivers mentioned it as a desirable design approach. SeaTac airport also has a roadway that goes under the facility; it was once opened to public traffic but is now restricted to registered delivery and service vehicles. The UPS driver who services SeaTac appreciates the secure environment that provides easy access to the many commercial establishments in the sprawling facility. Several drivers brought up the idea or responded favorably to the idea of using the downtown bus tunnel for freight delivery during evening hours.

CONGESTION

Almost by definition, urban centers are congested places with multiple activities occurring in a limited geographic space. One strategy for keeping traffic flowing in urban centers is to limit the length of a stay in loading zones, thus maximizing curb space turnover. This approach is being taken by some building managers, who are limiting the duration of a delivery vehicle to 30 minutes in underground loading facilities in office buildings. However, drivers reported that in highrise settings a 30-minute wait is often inadequate. Drivers may make 30 stops to deliver over 200 packages in one building alone, with internal deliveries taking over two hours in some buildings in Seattle. A driver with a downtown route may only stop at three or four buildings a day and only drive 10 to 20 miles.

Delivery time could be shortened through a number of measures:

- Deliveries could be made to a central package center in a building for internal distribution by personnel other than the driver.
- Deliveries could be made by a delivery company employee based in the building.
- Additional elevator capacity could be added for freight and delivery activity.

Customers want personal delivery of packages, particularly for time-sensitive material, and that service fetches a premium price. For this reason, deliveries of this kind of material to a central distribution point in an office building is not favored by customers or delivery companies. Drivers said they would like such a system. UPS employs part-time workers to deliver air packages within buildings when volumes warrant; drivers liked this too, although the union opposes the use of part-time workers.

Delivery and service workers are required to use freight elevators in most class A office buildings. Often there is only one freight elevator. Freight elevators always return to the bottom of the building after a stop, which makes delivering to a 40-story building even more time consuming. Some building managers can convert certain elevators for delivery use and do so during peak periods. However, other building managers strictly segregate elevator use, which adds time for deliveries (and contradicts policies that limit truck stays to less than 30 minutes).

In terms of street congestion, reopening Pine Street through Westlake Park was favored by drivers who operate in that area of downtown Seattle. They favor traffic diffusion as a way to maximize their options in getting around. Drivers reported a noticeable reduction in congestion at 5th and Pine, but increased congestion at other intersections and blocks from I st to 5th between Pike and Pine after Pine Street reopened.

Drivers commented on increased road congestion in suburban areas, especially along arterial collectors like the Woodinville-Duvall Road. Commute and school-related traffic comprising both private cars and school buses causes long back ups. One suggestion to increase traffic flow proposed by drivers is to create bus pull-out load and unload zones, which would protect school children while allowing traffic to pass the bus. School buses should use the triangle sign Metro buses use that requires traffic to yield as they reenter the main traffic lane.

One driver cited Sacramento as an example of a city that reduced downtown traffic congestion by creating centralized parking garages and pedestrian only areas of downtown and simultaneously building a light rail system that allows people to arrive downtown without a car at all. This makes for a more pleasant pedestrian experience, as well as a better environment for delivery truck drivers who can deliver from door to door without car traffic.

CO-EXISTING WITH OTHER MODES

Focus group participants had many stories about sharing the road with other modes of motorized and non-motorized transport (see Figure 7).

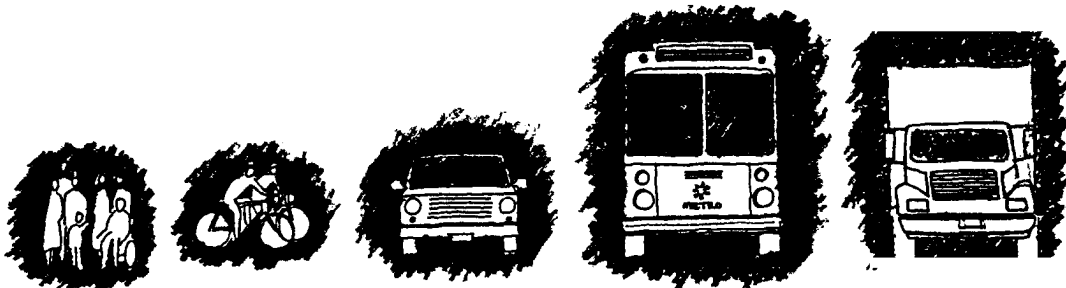


Figure 7. Co-existing Modes. Pedestrians., bicycles, automobiles, buses, and trucks co-exist within a typical urban area.

Trucks

All agreed that the easiest group to get along with comprises other truck drivers who deliver in their area, because as colleagues they understand the pressures and constraints of maneuvering and delivering in an urban center. Cooperation among drivers, many of whom work the same districts or routes over time? is a key to utilizing scarce curbside space, watching one another's trucks and cargoes, and alerting one another to parking opportunities or traffic problems.

Cars

Truckers wished that car drivers understood the difficulties of turning, stopping, and even seeing well from their trucks. Car drivers often cut in back or in front of trucks, whose stopping time is much greater than that of a car. One driver told this story in exasperation:

I had a lady that hit me [my truck], so help me God. She literally told the cops, "I know you'll never believe this, but I didn't see him. I heard his horn but I did not see him." What is it you can't see about this 48-foot great big red and white trailer with a huge S on it for Safeway? She said, "All I heard was a horn." People need to be educated.

As was previously mentioned, cars that receive the most wrath are BMWs with commercial plates parked in yellow loading zones.

Pedestrians

Truckers who regularly work in the downtown core seemed to understand that people and their diversity make the center vibrant and interesting. The idea of wider sidewalks at street crossings is not a threat to them and would not impede their ability to turn corners etc. Several urban drivers felt that the pedestrian right-of-way makes turning corners difficult and potentially dangerous and suggested that an all-way pedestrian signal and crosswalk, as exists in front of

the Pike Place Market at 1st and Pike and in West Seattle at Alaska Junction, is a desirable option. This way, the roadway is clear of people during the all-vehicle period.

Suburban drivers wanted to separate motorized vehicles more absolutely from pedestrians. They suggested pedestrian underpasses at street crossings. (Note that urban designers, when doing charrettes for urban villages, have proposed pedestrian zones in which motorized vehicles would go underground.)

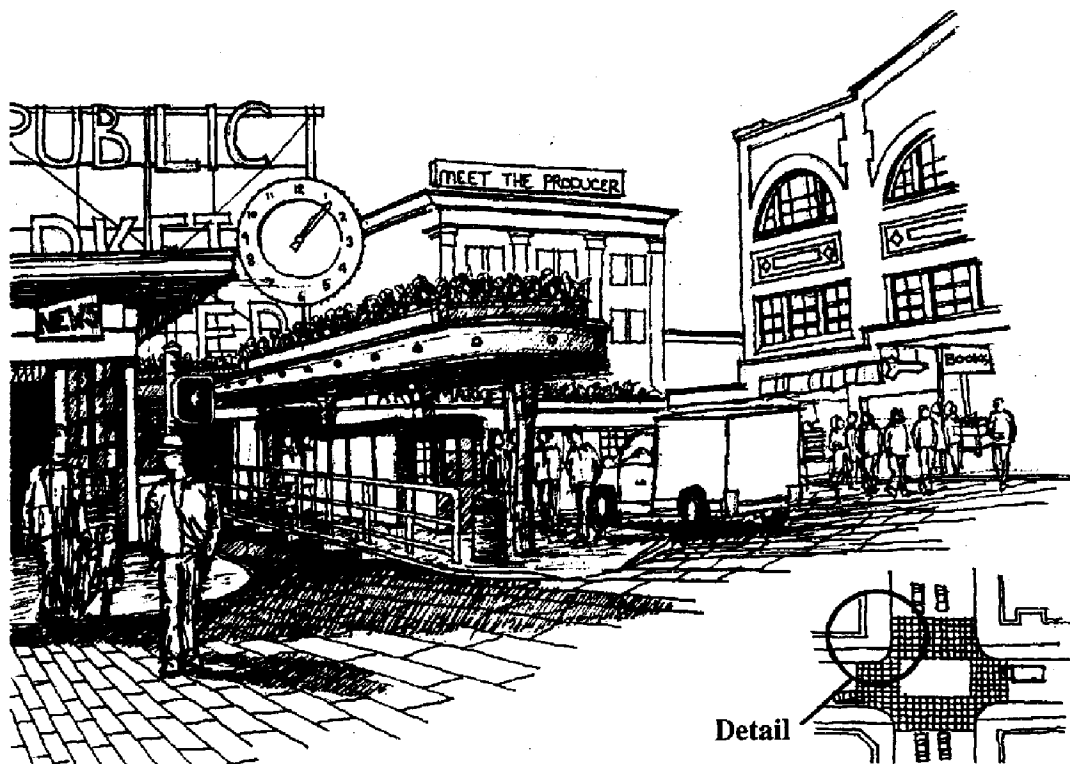


Figure 8. All-Way Pedestrian Crosswalks. Operating within the downtown core, truckers understand that people and their diversity make the center vibrant and interesting. All-way pedestrian signals and crosswalks make the roadway clear of people during the all-vehicle period, creating a high degree of predictability for the driver.

Bicyclists

Participants identified bicycle riders as a real problem for two primary reasons. The first reason is the erratic and unpredictable behavior patterns of some bicyclists, who behave like a car at times, then as a pedestrian at other times, often weaving in and out of traffic. The second reason has to do with a sense of fairness or playing by the rules: that is, truck drivers are held to very stringent safety and operating standards, while these wild bicyclists feel they are not accountable to any laws. Bike messengers (who are paid by the delivery) generally were cited as the offenders, as opposed to commuters.

Taxicabs

Several drivers identified taxis as the worst group with which to try and share the road. One participant told the story of a cab driver who, when stuck in traffic, simply jumped the curb and drove down the sidewalk for a block.

ZONING AND DESIGN

Truckers, like many urban designers, do not like strip malls, although for potentially different reasons. Most strip malls have no loading dock or loading zone and no back alley or back-door receiving entrance. All access to retail and commercial activities is through the front door, so deliveries compete for time and space with customers. Furthermore, the linear nature of these developments means that more time is spent running back and forth with a hand truck to move goods from the truck to the final destination.

Participants want parking available for commercial deliveries, whether it be on the street or off the street. The key is that the parking area be large enough to safely maneuver the truck and that it be near the point of delivery, preferably in a separated area from general customer

car parking. Alleys and centralized delivery docks are desirable. Pull outs, out of the main flow of traffic, are desirable both as places to park for deliveries and as places for other vehicles such as school buses to use for loading/unloading.

The City of Redmond City Hall doesn't have a loading dock or an off-loading dock. I have to park in front of the City Hall, in the fire zone. And I have city fire officials telling me, making a joke, "You know I could give you a ticket. " So I have to go to every office in the City of Redmond with my hand truck, you know, wheel it around people. That's not professional. It also creates a hazard in emergency situations. Because now our vehicles sit in the emergency spots. So where am I supposed to park, by the library and wheel all the stuff for the city over?

Loading dock areas need to be standardized in entrance height, angle of approach, and height of dock; noise and light controls should be utilized. Other service equipment, such as utility meters and garbage dumpsters, should be placed safely away from the loading dock approach. Standard clearance for a trailer is 13 ft 6 in., although several newer buildings have 12-ft and even 11-ft entrance heights. (Weyerhaeuser and Microsoft were specified in suburban areas.)

Landscaping used to buffer and break up large retail parking areas should be spaced differently for truck paths and approaches. Landscaping with street trees-to demarcate the road edge from the pedestrian/sidewalk area-should be done with trees whose lowest limbs are above truck cab sight lines. Drivers' reactions to street trees ranged from acceptance to a desire to take them down altogether. Any aesthetic appeal street trees might provide had little appeal for truckers, who are more concerned with ease of visibility and reducing damage to the truck itself. Where landscaping is combined with narrow sidewalks, primarily in downtown areas, it should be designed to allow easy hand trucking of freight from the curb to the building.

Sign controls seemed less important to drivers than ease in finding address numbers on both residential and commercial streets.

The truckers' points of view, experience, and expertise should be included in the building design, street design, zoning ordinance writing, and the general development process. Truckers should be invited to meet with designers, engineers, and planners to discuss their concerns and ideas. Some thought plans and designs should be reviewed with truckers' needs in mind.

The next meeting that I would be interested in attending would have a summary of what we've said here with architects, somebody from the city council, from WSDOT, from the State Patrol, and traffic engineers.

TECHNOLOGY

For the most part drivers have constrained or no access to communications technology such as cellular phones or Intelligent Vehicle Systems computerized data that could inform them of loading/parking conditions at their next destination, thereby maximizing their time and energy. Some trucks are equipped with cell phones, which are restricted to emergency use. Others have phone systems that reach their dispatchers only. Truckers were unfamiliar with any system of electronic signals that could alert them to space availability in a downtown building's loading bay.

Ironically, it appears that package delivery services know more about the whereabouts of their packages than their trucks. Airborne Express drivers download their hand-held computer pads from pay phones during the course of the day, conveying data via modem to

centralized computer tracking system. Yet all the participating drivers said they enter underground loading areas "blind," not knowing whether there will be space for them.

STRESSFUL CHANGES IN THE INDUSTRY

Truckers' lives are often stressful. Deregulation and competition are contributing factors, as are traffic congestion and the role of electronic communications in the workplace. The line between package delivery and less than truckload service, once clearly marked, is becoming blurred. UPS drivers can now deliver shipments of up to 150 pounds, while LTL drivers are taking semi-trailers into home-based businesses in residential areas. Each segment increasingly competes for each other's markets by offering personal delivery service. For LTL drivers accustomed to unloading at shipping and receiving docks by the pallet load, the personal services expected by a small shop owner receiving a hand truck supply of beauty aids can be a new and stressful role change.

The increase in vehicle miles traveled and the actual number of vehicles on the road are saturating key arterials in the metropolitan area. This creates stress for drivers on many levels: the need to complete deliveries and pick-ups in a strictly enforced time period (UPS drivers must return air packages by 6: 10 PM), the frustration of car drivers who are willing to take chances and cut in front without understanding trucks' needs for greater braking time. The modern office is changing because of downsizing and greater reliance on electronic messaging. Central receptionists are disappearing. This means that deliveries must be made directly to individuals located somewhere on an office tower floor. Finding package and time sensitive delivery destinations is becoming more difficult at the same time that expectations about more exact delivery performance increase.

Truckers recognize the responsibilities of maneuvering large equipment with tons of cargo on highways and urban streets, and it is an awesome, and for that reason stressful, responsibility. Drivers' livelihoods are directly affected by enforcement practices as well. Double parking is a moving violation that goes on the driver's record, and the accompanying ticket must be paid by the driver (UPS will pay for standard parking infractions). When a delivery must be made and curbside or in-building load space is unavailable, drivers are forced to double park. Several such violations require drivers to take driver education courses and/or suspension of their licenses.

FINDINGS AND RECOMMENDATIONS

FINDINGS

Washington state has taken a leadership role in attempting to understand the relationships between freight/urban goods movement and the development of livable urban centers. Nationally, little research exists on the nature of freight and package delivery and its requirements.² None of the studies we located attempted to obtain the truck drivers' perspective about what design, regulatory, enforcement, or management factors facilitate or impede their ability to carry out their jobs. In this regard, this study appears to be unique.

The need to understand how to best accommodate goods movement *in conjunction* with other urban center functions and qualities (i.e., healthy retail and service sectors, pedestrian friendliness) is of particular importance for cities, counties and regions planning under the state's Growth Management Act. The Puget Sound Regional Council (PSRC, in its review of the 21 urban center plans in the four-county central Puget Sound region, found that freight issues are largely neglected. The topic is addressed in very general questions regarding how freight is handled and truck access provided. PSRC's findings reinforce the need to incorporate more detailed and sophisticated understandings of freight movement in urban centers into the planning, design, and development process.

Goods delivery in urban areas is highly competitive, time sensitive, and essential for a broad array of enterprises ranging from professional services in high rise office towers to mom

² The study that most directly addresses our interest area, and the only one we found in our literature search to do so, was published in 1993 by the City of Toronto, Metropolitan Toronto Transportation Department and Ministry of transportation, Ontario, *Retrofit Strategies for Loading/Delivery Facilities in the Central Area.*"

and pop grocery stores. The length of the delivery day continues to expand for a variety of reasons, including more 24-hour operations, the efficiencies of circumventing peak hour congestion; and demand for time-specific package delivery, which is aggressively marketed in the deregulated trucking and package delivery and pick-up environment (i.e., before 8:30 AM, before 10:30 AM, before noon, and as late as 6:00 PM for a guaranteed next morning delivery). These trends have the effect of changing curb space sharing patterns previously observed on city surface streets³ and requiring greater sensitivity to noise and light mitigation measures.

Drivers are very aware of the responsibilities they assume when driving a large and heavy vehicle. They are concerned about safety. Coexistence with other modes of travel, whether motorized or non-motorized, is considered part of the job, but the predictability and consistency of the other modes that share the road are critical concerns. For example, motorists appear largely unaware that truck drivers cannot stop their vehicles as fast as a private car, and they cut in front, in back, or around trucks. Bicycle messengers and taxi drivers, each paid in "piece-work" fashion, often zoom in and out to catch the next fare. The truck driver experiences similar time demands but must move more cautiously and is more constrained in where the truck can be loaded and unloaded.

The specific findings highlighted below are grouped into categories and represent key observations about problems, patterns, or potential solutions that we believe could be

³ As noted earlier, Philip Habib in his paper *Urban Freight Practice-An Evaluation of Selected Examples*, describes curb space sharing in San Francisco in which the peaks of commuting, freight pick up/delivery, and shopping neatly coincide without overlap and conflict. Focus group participants in our research indicate a delivery pattern that begins during early morning peak hour and continues unabated into the evening peak hour.

reasonably addressed through policies and plans in existing and emerging urban centers in Washington state and else where in the nation. They are not intended to be inclusive-more specifics are referenced in the focus group summaries-but rather representative of key areas in which attention can be focused.

Surface Streets

- Curbside loading zones should be at least 30 feet long, located at block ends or on either side of, alley entrances so that trucks do not get trapped.
- Truck loading zones should not be used by automobiles with commercial plates and tabs.
- Alleys can offer an excellent service/delivery environment if certain design and management changes are introduced: if a one-way protocol is enforced, the clutter of dumpsters and overhanging fire escapes is reduced, conditions for the homeless and other alley-using people are improved, and alley facing building walls are designed to provide passing pull-outs and dumpster storage areas.

Streets and People

- All-way crosswalks where pedestrians and vehicles alternate crossings are desirable as a way of promoting truck and pedestrian coexistence. Such crosswalks are employed in Seattle at the Pike Market and Alaska Junction. From the truckers' point of view, they provide greater certainty and safety in making turns at intersections.
- Wider sidewalks and pedestrian bulbs do not pose problems for drivers.

- Street trees that buffer pedestrians from the roadway are not perceived as problems, as long as they were pruned to protect sight lines and eliminate branches below truck box height (13 ft 6 in.).

Streets and Buildings

- Entrances to buildings with underground loading facilities should have street level signage that indicates loading space availability.
- Entrances and loading docks should be of standard height and slope.
- Entrances and/or docks should be angled to allow room to reasonably enter and leave from the street or alley.
- Loading docks shared by several smaller businesses would be efficient in many circumstances.

Within Buildings

- In large office buildings, package deliveries are confined to freight elevators, of which there is usually only one. This can create a serious bottleneck for delivery, especially for time sensitive items. A few building managers convert extra elevators during peak times.
- Building managers are limiting parking time, often below what's needed to deliver within the building itself. One option is to separate the drop-off function and the internal building delivery function by using a central mail room or building-based staff of the delivery service.
- Telecommunications technology and computers are changing office staffing patterns and often eliminating the receptionist role. This compounds the difficulty of and adds

time to-finding the appropriate individual on an office floor to deliver to and receive an authorizing signature from.

- In strip malls, drivers deliver goods through the same door and usually through the same retail space as customers use. In these instances the absence of a service entrance, alley or convenient loading zone builds in direct conflict with customers.

Technology and Equipment

- In regard to advanced knowledge about loading space availability, truck drivers tend to "drive blind" even though cell phone and other technology is readily available. These innovations could help eliminate unnecessary trips down to a full loading dock or multiple trips circling blocks to find a free loading space. (Cell phone use, when available, is usually restricted to 911 emergencies, presumably because of cost.) Technology appears to be applied to tracking packages, not toward maximizing loading space utilization.
- The physical constraints of compact urban centers may increasingly require the use of "urban scaled delivery vehicles," smaller, more nimble, and more efficient to deal with increased congestion and density. Examples include making milk deliveries to supermarkets in Seattle's Capitol Hill neighborhood in 22-ft trucks rather than tractor trailers, or delivering time sensitive packages in Manhattan via bicycle rather than step-van.

The focus group research method we employed resulted in animated discussions among participants. Drivers often introduced topics on the focus group agenda before any facilitator prompting, and by the third and fourth groups we could anticipate answers and comments on

topics of significance. The ability to anticipate convergence on similar topics validates the qualitative research approach and signifies that it is complete. It is important to note that getting drivers to participate in the focus group was a time consuming task that would not have been possible without the active involvement of the Teamsters Union Locals.

Involvement

- Focus group participants wanted architects, designers, planners, and transportation engineers to know of and listen to their concerns and were confident that roads, buildings, and enforcement would be improved once these professionals had been introduced to the drivers' perspectives, experiences, and constraints.
- The truckers' views should be represented by the unions and trucking firms in the public policy, zoning, and planning process.
- Involvement in the focus group process itself was made possible by the active involvement of Teamster Locals 174 and 741. Without their involvement it would have been extremely difficult to get drivers to give up an extra two hours outside of work.

RECOMMENDATIONS

The information obtained through this research is valuable and authoritative from the vantage point of the professionals most intimately involved with the delivery of goods in compact urban centers. The challenge is to utilize this information to develop guidelines for retrofitting existing urban centers and for developing new urban centers that foster the coexistence of goods movement with other facets of urban vitality. To do that we recommend that truck drivers;

industry leaders; building owners and managers; city, regional and state officials involved in transportation planning and design; architects; planners; and urban designers do the following:

- establish a forum to explore the findings from *Learning From Truckers* and learn from one another
- analyze the feasibility of a variety of the suggestions arising from this study by comparing them with existing codes, regulations, and enforcement processes and measuring, where possible, the benefits and impacts of implementing such suggestions
- develop guidelines for retrofitting and creating urban centers as livable, pedestrian oriented, vital areas that gracefully accommodate people, goods, and commerce.

PART 2-SUPPORTING DOCUMENTATION

LITERATURE REVIEW

This literature review is an update of the annotated bibliography contained in "Urban Goods and Intercity Freight Movement." Strategies used to identify relevant literature included referrals by expert sources (Peter Beaulieu at the Puget Sound Regional Council was particularly helpful in this regard), search of electronic databases (AVERY, NITS, PAIS, Expanded Academic Index, University of California Transportation Library), and reverse citation index search for articles by Ken Ogden and Philip Habib. Because of the relative paucity of literature specifically focused on urban trucking, keyword searches needed to be broad. "Truck" in combination with "urban" or "land use" proved to be the most useful search strategy.

Strategies identified in the literature for discussion during the focus groups were design guidelines for off-street loading facilities, goods distribution systems, zoning, communication, curb space management, and parking enforcement.

Design guidelines include such things as requirements for provision of off-street loading facilities and street signage. Goods distribution systems focus on the proper division and consolidation of goods movements and the use of transfer facilities. Zoning can help preserve and properly locate shipping facilities within the urban fabric. Communication strategies range from broad awareness by government and industry of each other's needs to specific education about truck routes and construction disruption. Curb space management seeks to efficiently allocate on-street parking between general use, transit, and loading zones. Parking enforcement implements curb space management strategies by ensuring the desired use and turn-over of parking spaces.

PRIMARY SOURCES

City of Toronto Planning and Development Department, Metropolitan Toronto Transportation Department, and Ministry of Transportation, Ontario "Retrofit Strategies for Loading/Delivery Facilities in the Central Area," March 1993

The study highlights the importance of a clear understanding of the specific nature of goods movement and metropolitan area being planned for. For instance, in Toronto there would be adequate off-street loading facilities for large trucks were it not for poor management, which allows excessive use of these docks by service and personnel vehicles.

The primary strategies the Toronto report recommends are design guidelines and physical retrofits, goods distribution systems, zoning, communication between industry and government, and parking enforcement.

Metropolitan Toronto Roads and Traffic Department "Metropolitan Toronto Goods Movement Study," December 1987

A broader study than "Retrofit Strategies in the Central Area," it considers the entire metropolitan area. Section 5.4 addresses goods delivery and pick-up. Sections 3.3.3 and 3.3.4 explain the methodology used in interviews and focus group with trucking industry managers.

Habib, Philip "Urban Freight Practice — An Evaluation of Selected Examples" Transportation Research Record 1038 p. 40-51

Uses cases studies to illustrate and evaluate curb space management, off-street facility planning, and zoning as techniques for managing urban goods movement. Provides a good introduction to planning options for urban goods movement.

Delcan Corporation "National Capitol Region Goods Movement Study: Technical Report" prepared for A Joint Technical Committee on Transportation Systems Planning (TRANS), May 1991

Pages 59-64 of the report address issues specific to the two central areas of the Ottawa region. The report's recommendations are to provide alternative routes for through goods movement, increase enforcement of on-street loading zones, improve curb space management, ensure that design guidelines provide for adequate off-street loading facilities.

SECONDARY SOURCES

Habib, Philip "Effect of On-Street Pickup and Delivery on Level of Service of Arterial Streets" Transportation Research Record 772, p.73-77

Lane blockages by pickup and delivery vehicles have a significant impact on traffic speed and congestion in central areas except at very low or high traffic volumes.

Cambridge Systematics, Inc. "Development of an Urban Truck Travel Model for the Phoenix Metropolitan Area" Arizona DOT, February 1992

Includes data on land uses at truck trip ends in the Phoenix area, and the percentage of truck trips by weight classification that make on-street stops.

Municipal Transportation Policy/Planning Branch " 1988 Ontario Commercial Vehicle Survey" Ontario Ministry of Transportation, August 1991

Surveyed commercial vehicles on the Ontario highway network.

Mannering, Fred; Jodi Koehne, Joseph Araucto. "Truck Restriction Evaluation: The Puget Sound Experience" Washington State Transportation Center, August 1993.

This study examined the benefits of restricting freight traffic to dedicated highway lanes.

Expected benefits included improved safety, more efficient freight operation,

improvements in pavement deterioration rates. Findings were inconclusive and no recommendations for freight restrictions were made.

Trowbridge, Amy; Doo Hee Nam; Fred Mannering; Jodi Carson. "The Potential for Freight Productivity Improvements Along Urban Corridors" Washington State Transportation Center, December 1996.

Used survey methods to estimate time savings to the trucking industry and single occupancy vehicles by dedicating reserved capacity lanes for trucks and buses.

KEY INFORMANT INTERVIEWS SUMMARY

Interviews were conducted with the following people:

Mike Bevers	<i>Transportation Manager, Darigold</i>
Dennis Flajole	<i>Dispatcher/Driver, Darigold</i>
Don Carlson	<i>Carlson Architects</i>
Patty Conway	<i>Airborne Express</i>
Joey Gasca	<i>Teamsters Local 741</i>
Karen Anderson Bitten-Bender	<i>Intracorp</i>
Andy Rogers	<i>Driver, Darigold</i>
Henry Sharpe	<i>Senior Planner, Seattle OMP</i>
Frank Nelson	<i>Seattle Engineering</i>

CURB SPACE ISSUES

Parking availability is a key concern within urban centers. Commercial vehicles such as courier vans, mini-vans, cars, and pick-up trucks can obtain a commercial sticker that allows them to park in front of any meter (including load zones) for up to 30 minutes between 6:00 AM and noon. These vehicles commonly take needed loading areas away from larger delivery trucks. Curbside commercial load zones are frequently occupied by non-delivery vehicles or vehicles with the proper permit that are not actually involved in delivery service at the moment. The Seattle Police Department's parking enforcement staff division has become increasingly understaffed over the last few years and does very little to enforce proper use of loading zones in the CBD. This is an issue that was raised in many of the interviews.

Frank Nelson from Seattle Engineering described the existing types of load/un load zones in Seattle.

1. General Load/Unload Zone

These are available to all vehicles with a 30-minute time limit, reserved for loading purposes only.

2. Truck Load Only

These zones are reserved for trucks and vans but do not require a permit and are not metered. There is no time limit in these zones.

3. Commercial Load Zone

These zones are restricted to commercial vehicles (must have commercial license plates) and are paid for in one of two ways.

- coin operated 30-minute meter
- purchasing a window decal from Seattle Engineering that allows unlimited access (loading period is still limited to 30 minutes). Annual fee of \$90.00 per vehicle.

OFF-STREET LOADING

Most loading docks are 48 in. above grade, but QFC has 36-in. docks. This is an example of a real problem., Also a problem are loading docks at other odd grades, slopes, and angles.

Shopping malls are not designed for deliveries. Truck parking is simply not provided near stores because paying customers come first. Finding stores in the malls is very difficult, and then delivering by hand truck, often through the main door, is time consuming.

ALLEYS

Alleys are very important. At 16-ft wide they could also have turn out areas, hollowing out portions of the buildings facing the alley to permit truck parking and passing. Public works and fire equipment should be redesigned for urban environments by European standards and equipment. Fire equipment and garbage equipment should be modified for urban area use. Noise and size can and should be reduced. Dumpsters are a case in point: their metal lids make enormous noise, so those are being replaced by plastic lids. Dumpsters pose other problems; if you park in front of one to deliver they can't be accessed by store personnel or haulers.

DELIVERY SCHEDULING

Frank Nelson (Seattle Engineering) indicated that he believes goods delivery will increasingly happen at night and may eventually be prohibited during the day in the CBD. This, he said, would be especially true as streets are narrowed to provide increased pedestrian movement. Altering the times of delivery to off-peak hours at night, for example, would work for Darigold, but not necessarily for customers. For example, small proprietor restaurants or retail have no staff at night for receiving deliveries or are closed altogether. Corporate-run convenience stores do not want night deliveries. They do not want staff to leave the retail area to receive back-door deliveries (for safety reasons and to minimize staffing), and they do not want delivery personnel entering through the front door (although Mike thinks such activity would probably increase safety). According to Patty Conway from Airborne Express, constraints on times of delivery would be bad for the time sensitive delivery business.

CHANGES IN THE MARKETPLACE

Consolidation

Darigold is going to get out of the business of store-to-store delivery, providing bulk delivery to food service providers such as Sysco Systems and Food Services of America, who will then go door to door with an array of products. The formerly regulated industry had three categories of delivery service: 1) small package (under 100#), 2) LTL (less than truckload) (15 to 10K), and 3) truckload (1545 K). In the deregulated environment, the industry is changing, with providers offering a continuum of service. For instance, UPS now delivers packages up to 150#, and Yellow or Viking will take deliveries as small as 300#. This has implications for who is part of the urban delivery marketplace.

Congestion and Efficiency

Cost savings and congestion reduction could occur by hauling a double trailer rig on a main highway, then unhooking one trailer at a safe drop-off site and making deliveries with the other, exchanging the operation in mid-day and then returning to the terminal. The Freight Mobility Roundtable has suggested such designated "drop-off" sites. Frank Nelson indicated that the city of Seattle was not likely to consider creating trailer drop zones anywhere within city limits. In fact it is currently illegal to unhook a trailer in the city under anything but emergency circumstances.

Confinement to freight elevators slows the delivery process down. ITS systems which relayed information to drivers about parking space availability would be good. When congestion affects delivery time, companies like Airborne Express seek alternative modes such as bicycle messengers in New York City or foot delivery.

BUILDING ACCESS IN SEATTLE

Examples of Good Buildings in Downtown Seattle

- City Centre on Union between 6th and 5th-exceptional
- Rainier Square Tower although there is only 12-ft clearance
- Century Square very good
- King County Medical very good alley delivery dock

Examples of Buildings with Poor Access Features

- Columbia Tower only has three dock spaces for trucks over 12 ft high. Trucks must nose in from Columbia St., where they often have to wait in line. Inside there is very little turn around room.
- Washington Mutual Building as access from a one-way street in the wrong direction, and trucks must back in the small entrance. Very little dock space.
- First Interstate Building because the gradient at the entrance clearance is not adequate.
- Old Spaghetti Factory, where a remodel eliminated the loading dock in favor of increased floor space, now trucks must park in a no stops/tow away zone to make deliveries. Because of this, traffic crossing nearby railroad tracks is congested, causing a potentially dangerous situation.
- Nike Town/Planet Hollywood/Levi have egress from a parking garage that does not have its own lane, and traffic must exit through the entrance lane if someone is parked in the alley entrance. The restaurant here gets a delivery from Kraft food service every day that ties up the alley for between 1-2 hours in the morning.

- Suburban—both Weyerhaeuser Corporate Headquarters and Microsoft only have dock clearance of only 11 ft.

FOCUS GROUP GUIDE

Introductions: including name, kind of driving, company, and time in the profession

Purpose of meeting: to learn from experts what works and what doesn't in goods movement in compact, pedestrian-oriented urban centers.

Breaking the ice: What is your favorite place to deliver? Why? The people, the good food, easy access, plenty of parking etc. etc. When this plays out ... what are the worst places to deliver? Why...

Drawing on examples mentioned above, weave in the following specific areas of interest:

ON-STREET ISSUES

- Curb space use patterns: I'd like you to look at this graph of curb space use from San Francisco (show graphic on board). It shows that different types of users share the curb during the course of a day. Is this similar to your experience? (the graph shows no freight activity after 4:00 PM ... probe on time sensitive pick-ups at end of day, where does the courier vehicle stop during peak traffic periods, reserved bus lanes etc.)
- Do you make most of your deliveries/pick-ups from the curb, the alley or the loading dock? Which do you prefer and why? Is there a difference by type of vehicle and service, for example FedEx-type van vs. Darigold-type 22' box
- What impediments are there to curb access? Too many delivery vehicles, passenger vehicles, buses, pedestrians, bicyclists, corner curb bulbs?
- On this board is a loading zone metering layout we found in a study. What do you think of it. Why don't you mark your suggestions right on the board.

ALLEYS

- Do you presently use alleys for deliveries? In what situations do they work best, worst?

Would you like to use them more? What would make them more usable? If every alley had a turn-out/by-pass point, would that make life easier? Is there a protocol for alley use? Who uses alleys most?

LOADING DOCKS

- Do you prefer loading docks inside buildings to curbside deliveries? Please describe loading dock management issues: adequate number of docks, waiting times, proper design, height of entrances, advance notice of dock space availability, separation of courier/time sensitive deliveries from other deliveries, space for service vehicles.
- We know of two cities—Dallas and Rochester NY— that have underground freight loading facilities. Have any of you used them? Would such a facility make sense to you? Just to hypothesize, would the downtown bus tunnel offer advantages if it were open to freight delivery during the evening?

CONGESTION

Almost by definition, urban centers are congested places with multiple activities going on in a limited geographic space. How do you deal with congestion on your routes? By selection of vehicle size? By vehicle type. . for example substituting a bicycle for a delivery van? By staggering hours? In what areas do you have flexibility to shift patterns and in what areas are you stuck?

Could the number of trucks be reduced if greater consolidation of freight . I think of 7-11's policy to reduce the number of deliveries by requiring consolidation of some shipments

or of Portland's floral deliverers who meet each morning to exchange deliveries by quadrant of the city.

TIME AND ENFORCEMENT

- Do you feel the pressure of time in making your daily rounds? What would you say your shortest stop is? Your longest? What would be your average length delivery stop?
- What would you do to shorten the length of each delivery? Some studies have found that downtown deliveries take over 30 minutes per stop and that much of that time is spent getting through office buildings to get to the final point of delivery. In suburban shopping centers, finding and making the hand-truck delivery can be very time consuming. (These observations may already have been made by the group and can be referenced). What are possible solutions to these time wasters?
- Curbside delivery zones have a 30 minute time limit. Is this adequate? I assume your vehicles have City of Seattle stickers ... or do you pay at the meter? Tell me about enforcement ... do the police enforce the 30 minute limit, parking enforcement? Do you pay for fines?

TECHNOLOGY

What roles can technology play in urban goods movement and delivery? How many of you use on board computers or cellular phones to contact your next delivery or make changes in your pick up and delivery pattern? Would you find it useful to be informed electronically of the availability of loading dock space in an office building? Or to be notified of an available curb space?

ZONING ISSUES

There are a variety of design and location factors regulated by zoning practices which could affect what you do. For example zoning can segregate or mix uses. Are there certain mixes of uses which don't work well?

Set back requirements may mandate parking in front of commercial retail facilities, other zoning codes require parking in back of the facility. Preference? Parking can be either on-street or off-street. Preference? Sign Ordinances control the size and placements of signs. Is their placement an issue for you? Landscape Ordinances require tree plantings. Do they affect your work?

What, if any, should the truckers' role be in the planning and permitting process?

LIVING WITH OTHER MODES

As we've discussed, you operate in a congested, mixed use environment, how do you get along with buses, bikes, pedestrians, service vehicles, other deliverers?

OTHER

- As more people live in urban centers, how can moving vans be best accommodated?
- Are one way or two way streets preferable?
- For time sensitive deliveries, would a central receiving office in a large office building work for you if they could sign for a package and route it internal to the building?
- In class A offices, can deliverers use passenger elevators?

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1. November 21st

Participants:

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Location:

Teamsters Local 741
552 Denny Way
Seattle, WA

2. December 4th

Participants:

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Location:

Redmond Family Pancake House
17621 Redmond Way
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3. December 5th

Participants:

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Location:

Southcenter Denny's Restaurant
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4. February 11th

Participants:

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Location:

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