

**PRELIMINARY S.W.O.T. ANALYSIS -
TRANSPORTATION IN DOWNTOWN PITTSBURGH**

ISSUES	STRENGTHS	WEAKNESSES	OPPORTUNITIES	THREATS
<p>1. TRANSPORTATION DEMAND</p> <p>1.1 Live-Work Relationships</p>	<p>Some 6,000 people live in Downtown[*] in several residential areas, allowing relatively short trip linkages to employment, retail, entertainment and other downtown activities. Downtown employment is about 120,000 jobs, about 110,000 of which are in the Golden Triangle.</p>	<p>About half of the people who work in Downtown travel relatively long distances by auto from suburban neighborhoods thereby creating high vehicle-miles of travel effort per work trip with related negative impacts of road congestion, airborne emissions, accidents, and family stress related to long commuter times.</p> <p>Low density, scattered suburban trip origins are basically auto-dependent, and the resulting high use of autos in Downtown creates pressures to "explode" the area beyond the human scale for walking, with neighborhoods divided by major roads which may be difficult for pedestrians to cross (e.g. freeways, Blvd. of the Allies) and some street fronts dominated by sterile and potentially dangerous parking lots and structures. Parking areas and major roads also form barriers between Downtown and its riverfront heritage.</p>	<p>Create incentives and opportunities for more people to live in Downtown: for example students, working people at various life-cycle stages, retired people. Loft space, office/retail buildings and industrial buildings converted to residential use and also as work places provide a significant opportunity (e.g. in Firstside, the Cultural District). Experience elsewhere (e.g. Toronto) suggests that each new household living in the Downtown reduces by 0.8 the number of commuting trips entering Downtown from elsewhere.</p> <p>Create mixed use activity centers and corridors, served by improved transit.</p> <p>Create more compact, mixed use suburban development to reduce auto-dependency and encourage/enable more use of transit (e.g. expanded LRT, express bus services on HOV lanes, and possibly commuter rail) to Downtown.</p>	<p>Major challenge to create "critical mass" of residential and other (retail, services) activities in various neighborhoods to create enough 24 hour street-related activity for safe, lively communities and provide more support for convenient, cost-effective transit.</p> <p>Requires close coordination between land use and transportation planning and delivery and good understanding between the private sector (developers, retail firms) and the public sector (government, rate-payer groups) of the market, investment, neighborhood compatibility and overall sustainability of the alternatives in terms of the lifestyle, housing and transportation choices and the quality of life for those living and working in Pittsburgh and visitors to the City.</p>
<p>1.2 Car Occupancy</p>	<p>The CBD is experiencing a high level of carpooling - 1.45 person/car core; 1.2 person/car fringe.</p>	<p>A drop in car occupancy would create increased vehicular volumes to serve the same number of travelers.</p>	<p>Encourage continued carpooling with increased marketing, matching programs, and preferential parking.</p>	<p>A significant difference in parking rates and possibly parking location preference will be required.</p>
<p>2. TRANSPORTATION SUPPLY & OPERATIONS</p> <p>2.1 Roads</p>	<p>Generally, the road system linking the Pittsburgh Region to Downtown was designed for a city population twice as high as now exists so that, auto traffic is relatively well accommodated by the</p>	<p>Streetscapes and some street crossings are not as pedestrian-friendly as they could be, such that transit use (which requires a pedestrian trip at each end) is not facilitated, and lively "people places" conducive to</p>	<p>Continue to take steps to make streets and sidewalks more pedestrian-friendly and to achieve more rapid, reliable bus service, while continuing to maintain a high level of service for automobile and truck</p>	<p>If Downtown's streets are made more pedestrian- and transit-friendly but neither pedestrian nor transit traffic increases, little will have been achieved.</p> <p>An integrated set of initiatives will be</p>

* Defined for purposes of the Downtown Plan as the Golden Triangle (also referred to as the core) plus the north shore and south shore areas in the river plains.

ISSUES	STRENGTHS	WEAKNESSES	OPPORTUNITIES	THREATS
	<p>road network linking the Region to the Downtown fringe.</p> <p>The freeway network and the three wide streets on the edges of the core (Grant, Liberty and Blvd. of the Allies) provide a fringe area distribution capability for auto, transit and truck traffic.</p>	<p>retail/restaurant/entertainment activities have not been encouraged in some areas.</p> <p>Many Downtown core streets are narrow (effectively 3 lanes curb-to-curb) which restricts auto access to retail parking areas in some cases and makes it difficult to provide efficient bus services. There is little residual capacity to accommodate increased auto traffic into core retail areas, which suggests that further growth in core activities will have to be accommodated mainly by improved transit services.</p>	<p>traffic. Steps to be considered may include establishing more high occupancy vehicle (HOV)/transit priority lanes, pedestrian-friendly crosswalks and/or medians on wide streets for safer pedestrian crossings, and possibly converting one way streets to two way operation in some instances.</p> <p>A major reconfiguration of bus routes serving the core is indicated and is being studied by the Port Authority Transit (PAT); see Section 2.3 below. In addition to the live-work and transit and pedestrian improvements described earlier, consider Traffic Demand Management (TDM) and Traffic Systems Management (TSM) changes to encourage greater use of transit (e.g. signal priority for buses on priority</p>	<p>necessary to encourage more walking trips (as per Item 1.1 above) and provide improved transit services (see 2.3 below).</p> <p>An integrated approach towards transit/pedestrian improvements, incentives for more residential and other activities in Downtown, and transportation management will be necessary. A piecemeal approach would have considerably less likelihood of success.</p>
<p>2.1 Roads (Cont'd)</p>	<p>Freeways provide direct access to/from Downtown.</p>	<p>However, the very high volumes of buses currently penetrating deep into the core create physical barriers, airborne emissions, and noise which are exacerbated by the narrow streets and tall buildings in the core. These impacts plus the crowding of sidewalks by rush hour commuters waiting at bus stops are seen by some retailers as a negative influence on sales.</p> <p>Arterial road access routes may be confusing in some instances owing to road discontinuities. Freeways and major corridor roads have interrupted the urban fabric in some parts of Downtown.</p>	<p>lanes, improved real time information to transit passengers and auto drivers regarding next bus arrival times at major stops, traffic incidents and ways of avoiding them, etc.)</p> <p>CTRCS (Computer Traffic Response and Traffic Control System) computerization of CBD traffic signals is underway.</p> <p>Provide improved signage, possibly combined with converting some one-way roads to two-way operation, to make ingress and egress routes to/from Greater Downtown easier to follow for both auto and bus users.</p>	<p>Try to avoid creating additional discontinuities, for example by not closing local roads where they cross the freeways and major roads.</p>
<p>2.2 Parking</p>	<p>Major traffic attractors in Downtown are reasonably well served by parking structures and lots. There are some 22,000 parking spaces in the Golden Triangle, of which about 14,000 are off street, and an additional 8,000 spaces</p>	<p>Extensive parking lots/structures sterilize key areas from human-scale activities and may create barriers (e.g. to the rivers). Parking capacity convenient to major Downtown retail and cultural activities may not be adequate.</p>	<p>Explore opportunities for more shared use of parking facilities (for daytime and evening uses) thereby increasing occupancy levels and reducing the pressure for expansion of parking lots and facilities. Coordinate this with transit</p>	<p>Will require a coordinated approach by parking facility operators and major companies and institutions, without which success is unlikely. The incentive for operators and for downtown businesses is reduced capital costs for expansion of</p>

ISSUES	STRENGTHS	WEAKNESSES	OPPORTUNITIES	THREATS
	<p>on the north and south shore fringes of Downtown.</p>		<p>improvements (see 2.3 below) aimed at moderating the rate of growth of auto traffic through a greater market share for transit. Provide some parking beneath new retail/cultural buildings as well as expanded fringe parking lots with convenient transit connections to Downtown provided free of charge to the extent possible.</p>	<p>parking facilities and higher occupancy levels and financial returns.</p>
<p>2.2 Parking (Cont'd)</p>	<p>Vacant or under-utilized land is generally available for new parking lots or structures, particularly in fringe areas on the edge of Downtown.</p>	<p>Opportunities for shared use of parking facilities (e.g. for daytime and evening uses) may be missed because of dedicated operation, possibly creating an over-supply relative to more efficiently used facilities.</p> <p>Dominant use by all day (commuter) parkers may affect parking availability for short term (e.g. shopping) daytime parkers, thereby discouraging growth of retail, restaurant and entertainment activities in Downtown. Provide 24 hour parking to serve new Downtown residential development (e.g. in Firstside).</p>	<p>Explore a cooperative approach among parking facility owners/operators to review and possibly change the relative rates for all day (commuter) parkers and short term (e.g. shopping) daytime parkers in order to encourage more of the latter, in support of retail, restaurant and entertainment activities in Downtown. Provide 24 hour parking to serve new Downtown residential development (e.g. in Firstside)</p> <p>Offer preferential parking rates and reserved parking spaces to HOV users at Downtown core and fringe parking lots and structures.</p>	<p>Opportunities for this may be limited; will require investigation and discussion.</p> <p>New or expanded parking lots/structures, if improperly located and designed, can sterilize street fronts and/or separate Downtown people places from the riverfronts.</p>
<p>2.3 Transit</p>	<p>Downtown is served by a fleet of modern buses, which appear to maintain reasonable average speeds in the mixed traffic stream, plus HOV bus services from the north and south sectors of the region and several Downtown routes on transit only, sometimes contra-flow bus lanes. Approximately 50% of commuter and shoppers travel to downtown by transit, a high share for cities of Pittsburgh's size.</p>	<p>Bus volumes are very high on some core area streets, particularly the major retail streets (Fifth Avenue, Smithfield, Liberty) with perceived negative effects on retail sales by some retailers (see 2.1 Roads, above).</p> <p>There are conflicts between bus loading/unloading and pedestrian flow on downtown sidewalks.</p> <p>CBD bus routes lack readability, impairing their use for intra-CBD circulation.</p>	<p>Consider bus routing alternatives as is currently being done in the PAT study. Some 8-10 alternatives are being considered including a core circulator service on Grant, Liberty and Blvd. of the Allies. Provide transit priority where possible. Consider smaller buses in the core, particularly on key retail streets.</p> <p>Emphasize a simple, "readable" bus routing system, designed to serve effectively commuters, shoppers and those attending cultural/recreational events in Downtown, with improved marketing and transit service information programs.</p>	<p>Will require a carefully coordinated approach, working with traffic agencies, retailers, cultural/entertainment operators, Downtown associations and citizen groups. Develop and provide to relevant agencies and groups quantitative planning and operational information showing interactions and tradeoffs among transit, roads and parking to avoid fragmented decisions.</p>

ISSUES	STRENGTHS	WEAKNESSES	OPPORTUNITIES	THREATS
<p>2.3 Transit (Cont'd)</p>	<p>The LRT system feeds Downtown and links a number of Downtown areas and complexes with direct, reliable service and convenient station stops. It also provides a distributor function for parking.</p> <p>Pittsburgh has a number of rail lines which could provide commuter rail service to Downtown and riverfront areas.</p>	<p>There may be a lack of convenient integration, with the rest of the transit system and lack of residential as well as commercial and cultural/sports activities at or close to the LRT stations.</p> <p>Rail line locations may not be appropriate.</p>	<p>Consider expansion of the LRT system in place of some of the priority bus services noted above, for example a link to the north shore, as currently being studied. Provide improved transit between expanded fringe parking and Downtown, including jitney shuttles to key Downtown points. Also consider a people mover link to the north shore and between Steel Plaza and a new parking structure near the Civic Center, as proposed by two private sector groups.</p> <p>Encourage mixed use development and activities at or adjacent to the LRT stations. Integrate with parking to encourage system use as a distributor between parking and activity centers.</p> <p>Consider commuter rail service to Downtown which would include park-and-ride suburban stations along the commuter line, to intercept auto commuters.</p>	<p>Cost-effectiveness of LRT system expansion will require analysis/justification relative to other investment opportunities.</p> <p>See comments on parking under 2.2 above.</p> <p>Sufficient commuter rail service (e.g. several trains in the peak period) will be necessary to attract a growing clientele; a "no frills" approach may be necessary initially to keep capital and operating costs to a minimum.</p>
<p>2.4 Goods Movement</p>	<p>Generally, the road network appears well able to accommodate truck traffic within Downtown although peak period congestion is experienced on major access routes (e.g. Fort Pitt tunnel/bridge) is significant.</p> <p>Demand for truck movements to serve Downtown while growing, does not seem generally to be a problem relative to the substantial existing road network.</p>	<p>Truck traffic can be expected to continue increasing, which will place increasing loads on freeways and feeder roads which penetrate and serve Downtown.</p> <p>There are Downtown conflicts between truck loading/unloading and bus and pedestrian mobility and on-street parking.</p> <p>Movement of heavy industries to suburban areas, in search of cheaper land and better truck access, has reduced the ability of the rail mode to serve goods movement, and is placing increasingly heavy truck traffic demands on the regional road network, with congestion impacts on auto traffic between the region and Downtown.</p>	<p>Encourage greater use of intermodal (trailer on flat car, container on flat car) rail/truck services to moderate the growth of truck traffic between Pittsburgh and other urban/regional centers and move goods more efficiently plus selective road improvements.</p> <p>Encourage office jobs and "urban industrial" jobs as well as related retail and service activities to locate in Downtown in connection with the above residential development, by providing inexpensive live-work buildings and discussions with major employers to relocate some activities from suburban to downtown locations.</p>	<p>Will require increased rail/truck coordination, which appears to be occurring in some instances but must be continually encouraged.</p> <p>Similar challenges to those noted above regarding more residential population and related employment in Downtown.</p>

ISSUES	STRENGTHS	WEAKNESSES	OPPORTUNITIES	THREATS
2.5 Pedestrians	Sidewalks are being improved to provide amenities and improved capacity for pedestrian traffic on many of the major streets in Downtown, e.g. Fifth Avenue, Wood Street.	Lack of streetscape amenities, competition from skywalks and the auto, poor lighting and maintenance, lack of storefront and street oriented activities and resulting low pedestrian volumes in some areas have inhibited pedestrian activities owing to safety concerns and an unwelcoming ambience. Auto orientation of road design and operations (see 2.1 above) may result in inadequate and unsafe crosswalks.	Take coordinated steps to encourage more street-oriented activities and pedestrians, including retail, restaurant and entertainment establishments fronting on sidewalks, possibly less emphasis on skywalks and interior malls, more streetscape amenities, improved lighting and maintenance of walking areas and broader initiatives relating to urban structure (see item 1.1), roads (2.1) and transit (2.3). Start in areas such as Fifth Avenue where street oriented people activities are occurring and work out from there into adjacent or similar areas such as the Cultural Center. Integrate with street-level arcade areas and walkways through major buildings where feasible.	An integrated comprehensive approach will be necessary for major success, but local initiatives building on existing retail/restaurant areas should be vigorously pursued. If a "critical mass" of pedestrians and street activities is not achieved, safety and related concerns may keep people off the sidewalks.
2.5 Pedestrians (Cont'd) 2.6 River Crossings	Rivers contribute strongly to the quality of Downtown ambience, views and amenities.	Rivers may be a physical and/or psychological barrier between the region and Downtown, particularly where bridge congestion is experienced.	Develop a system of pedestrian walkways and possibly cycling paths as an integral part of the riverfront parks currently being planned and implemented; also enhance the proposed pedestrian route across 6th street bridge and through Market Square to south shore. Landscaping, orientation and lighting require an approach which provides visibility and promotes pedestrian safety. Continue efforts to build the Airport busway bridge with generous sidewalks connecting to Fort Pitt Blvd. Establish the Fort Duquesne Bridge pedestrian walkway, and improved transit service to the North Shore area. Consider conversion of one of the three sister bridges to pedestrian/transit traffic only. Consider adding river ferries and/or taxis where feasible.	Need to maintain appropriate balance between capacity via Downtown auto/truck access facilities and efforts to add river crossing amenities to encourage pedestrian and transit access.