Transit and Land Use Design

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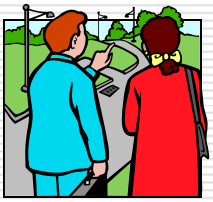


Outline:

- Goals
- Transit based land use design
  - Administrative Guidelines
  - System level actions – land use
  - System level actions - transit
  - System level actions – pedestrian/bicycle
  - Project level actions – land use
  - Project level actions - transit
  - Project level actions - pedestrian/bicycle
- Transit and Conventional Subdivisions and Neighborhoods
- Acknowledgements

Goals

- Rethink land use/travel patterns to facilitate non-automotive travel
- Create human scale neighborhood
- Reduce dominance of automobile
- Enhance movement by pedestrians, bicycles and access to transit
- Facilitate internal circulation

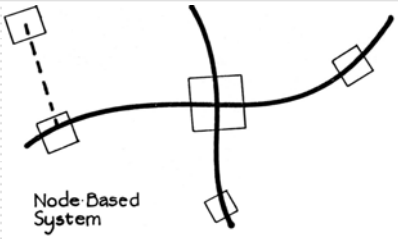
New Directions for Land Use and Site Design

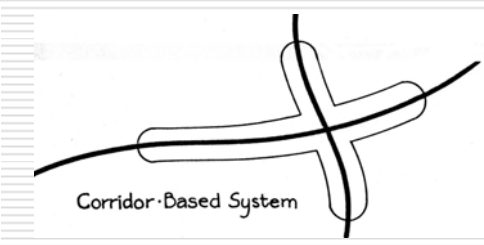
- Fundamentally there is a need to consider pedestrians, bicycles and transit in the land use process
- Provide and preserve choices for the future
- Need to ask how will people walk or bicycle safely before land use decisions are made
- Adopt a vision, positive approach, how to make it work, rather than reasons why it won't
- Increase awareness of the market and design to serve new land use and travel markets
- Minor modifications to accommodate transit prior to project review can have high payoffs

Transit based land use design

- Origins in Transit Community
- Corridor based design
- Land use is arranged to facilitate success of transit services.
- Pre-designate future transit routes
- Establish transit corridor zoning overlay districts
- Separate transit and auto oriented land uses
- Use mixed land uses
- Control of through auto traffic in transit corridor
- Provide a quality access system to transit by walking or bicycles

Node vs. corridor based design





Administrative Guidelines

- Modify state and local policies to include transit as an consideration in land development.
- Zoning should encourage transit-sensitive land use design through the designation of Transit Corridor Districts (TCDs)
- Provide for transit-sensitive review of site plans and development proposals.

Administrative Guidelines

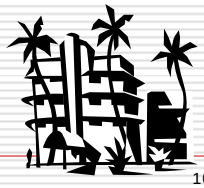
- Provide transit checklist for potential developers.
- Parking requirements in TCDs should reflect availability of transit services.
- Establish a Transportation Management Association to oversee transportation services and land use development along the transit corridor.
- Provide a mechanism for transfer of development rights (TDRs) for the land surrounding the TCDs

Systems Level Actions - Land Use

- Create transit corridor zoning overlay districts -- areas that will have future transit service
- Separate transit oriented and auto oriented land uses. Land uses which are conducive to transit; should be located along transit corridors
- Predesignate a future system of transit corridors; areas that have higher densities, mixed use development, and are served by transit with quality pedestrian and bicycle facilities with control of through automobile movement

Systems Level Actions -- Land Use

- Establish transit service zones along existing arterials.
- Explore public/private opportunities for transit stop joint development.
- Provide adequate population size and density to support transit use.
- Provide for mixed use development to facilitate shorter trips and use of non-vehicle travel



System Level Actions -- Transit

- Relate services design to market conditions
- Provide for passenger safety and security
- Provide high quality transit service.
- Use Transit vehicles that are quiet and have low air pollution levels.
- Create a consistent Transit Identity: Signage, etc. and compatibility of stops.

System Level Actions -- Transit

- Avoid need for shuttle services
- Design for a phased implementation of transit corridors.
- Provide for Technological and infrastructure flexibility.
- Provide for high level geometric design of transit corridors.
- Provide regular maintenance at transit stops.

System Level Actions -- Pedestrian/Bicycle

- Develop standards for pathways to be included with arterial, and collector highway projects, parallel but separate from roadway
- Institute a plat review that includes consideration of pathway connections, safety of pedestrian and bicycle movement
- Control of through automobile traffic.

Transit Oriented Land Uses

The following land use categories have a high transit compatibility (ratings of 4 or 5) and should be located in areas to be served by transit.

- Commercial airport
- Park and ride station
- General heavy industry
- Apartments
- Residential condominiums
- High density residential
- Retirement community
- Hotel – non-CBD
- Stadium
- Elementary school
- High school
- Junior/community college
- University
- Hospital
- General office building
- Office park
- Shopping center

Auto oriented land uses

The following have a low compatibility (a rating of 1) with transit. These land uses can generally be separated from public transit services.

- Water port
- General aviation airport
- Truck terminal
- Mini-warehousing
- Utilities
- Recreational homes
- Resort hotel
- Marina
- Golf course
- Day care center
- Nursing home
- State motor vehicle department
- Building materials and lumber
- Hardware/paint store
- Nursery/garden center
- Quality restaurant
- New car sales
- Service station
- Car wash
- Highway oasis
- Truck stop
- Furniture store
- Drive-in bank
- Drive-in savings and loan

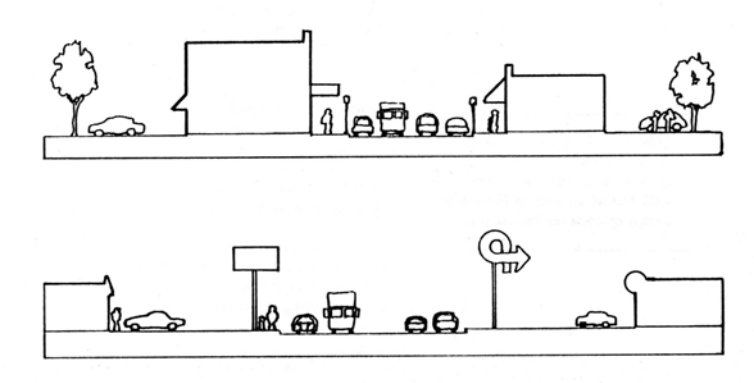
Project Level Actions – Land Use

- Provide mixed land use including housing, office, retail, light industrial and recreational uses.
- Provide variety within the district.
- Locate buildings near streets; maximize utilization of curb space to serve many users
- Locate higher densities close to transit
- sensitive to transit-generated noise and views.

Project Level Actions – Land Use

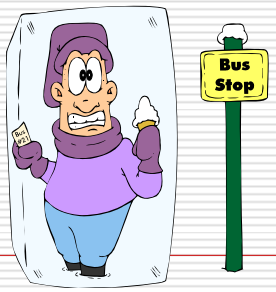
- Utilize appropriate land use adjacencies.
- Provide recreational opportunities and amenities.
- Accommodate multiple developers and development patterns.
- Use a parking density gradient.
- Develop a program to encourage shared parking facilities.
- Building location and design should be

Transit vs. auto oriented land use

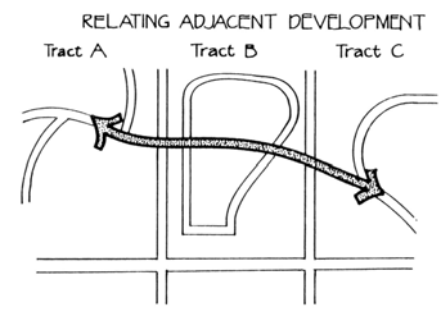


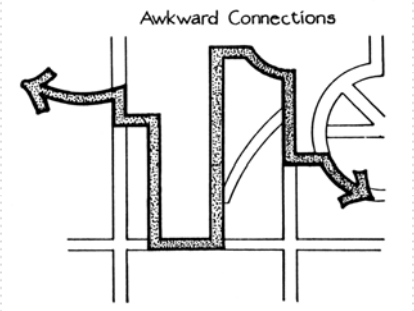
Project Level Actions – Transit

- Provide for better connections between adjacent development projects -- connect across "seams".
- Provide logical connections between buildings and pedestrians, bicycles and transit,
- Minimize the distance between vehicle door and building door.



Provide connectivity within neighborhoods





Project Level Actions – Pedestrian/Bicycle

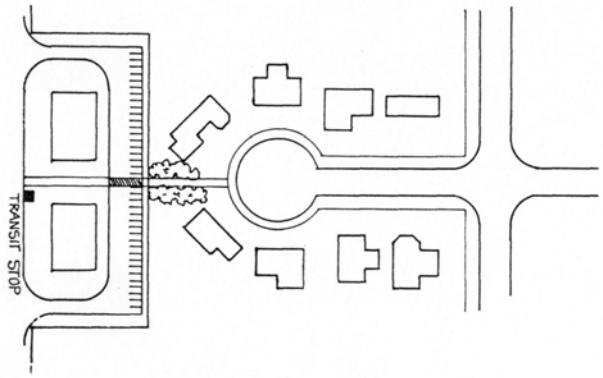
- Create a pedestrian/bicycle friendly environment (safe, secure, storage, interesting, human scale)
- Provide pathway connections between subdivisions, at ends of cul de sacs, to improve connectivity -- shortcuts
- Narrow neighborhood streets
- Provide Pedestrian/bicycle pathway system.
- Provide for safe, convenient pedestrian circulation.
- Promote bicycle access through high quality pathways and secure storage systems.

Transit and Conventional Subdivision/Neighborhoods

- Steps can be taken to accommodate transit in conventional projects that are not major transit oriented developments
- Use Good Traffic Management
  - Avoid driveways on main roads
  - Provide Proper sight distance
- Provide Good connectivity to adjacent parcels
- Use Access management

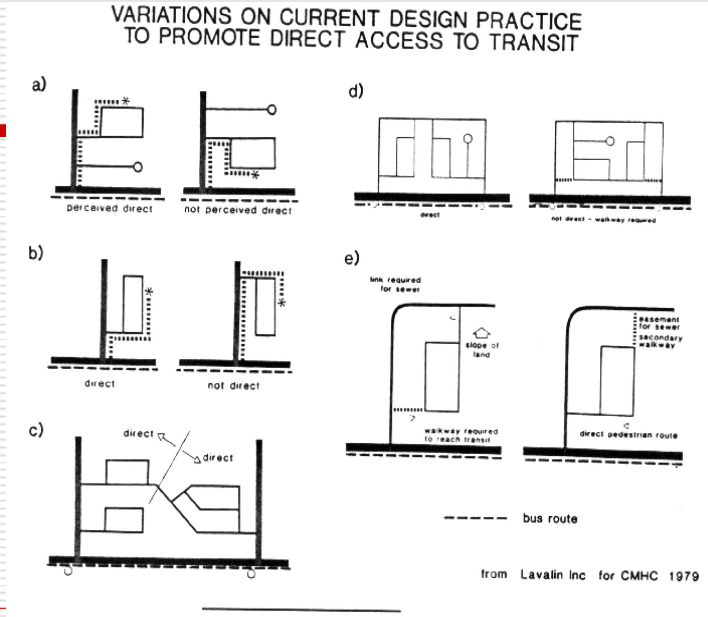
Provide connections to adjacent land use

Figure: Paths facilitate pedestrian and bicycle movement through development to transit stops.



Transit and Conventional Subdivision/Neighborhoods

- Avoid cul de sacs
  - Extra public cost
  - Extra travel
  - Concentrates traffic on arterials
  - Poor connectivity for pedestrians and bicycles
- Provide pedestrian and bicycle facilities
  - Shortcut connections
  - Paths parallel to main roads
- Use appropriate street geometry
  - Speed = f(width)
  - Be willing to accept narrow streets



Source: British Columbia, "Guidelines . . .," p. 28.

Useful web sites

- Smart Growth Network
  http://www.smartgrowth.org/default.asp
- US EPA Samrt Growth Policies
  http://cfpub.epa.gov/sgpdb/browse.cfm
- Victoria Transportation Policy Institute TDM Encyclopedia
  http://www.vtpi.org/tdm/tdm45.htm
- Congress for a New Urbanism
  http://www.cnu.org/

Acknowledgements

- Some of this material was developed as part of work being conducted by the Great Cities University consortium under the lead of the University of Alabama at Birmingham using funds provided by the Federal Transit Administration of the U.S. Department of Transportation.
- The opinions expressed are the product of independent university work and not necessarily those of the sponsoring agencies or of the agencies supplying data for the project.