Putting Connectivity Together

Connectivity Strategies for Vehicles and Pedestrians

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What’s the Problem?
What’s the Problem?
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Barriers to Connectivity

Land Use/Design Factors
- Spreading out the functions of living
- Single-purpose land uses – “pods”
- Vast parking lots
- “Landscape strips”

Transportation factors
- Incomplete networks
- Too many cul de sacs
- No sidewalks
- No crosswalks
- No bike paths
- Un-crossable highways
- Too many driveways to nowhere
Multiple Functions of a Travel Corridor

Move Traffic (Capacity)
- Car
- Trucks
- Transit
- Bicycles
- Pedestrians
- Delivery trucks

Provide Access to property
- Driveways
- Sidewalks
Conflicted Regional Corridors

- Primarily Through Traffic
- Mixture of Through and Local
- Primarily Local Access

Mobility
Accessibility
Connectivity: The Power of the Grid

Power of the Grid

- Same number of lane miles
- Greater Capacity
- All trips concentrated on one road
Connectivity: The Power of the Grid

Hawthorne Traffic Equation

\[ \text{Paths}(A, B) = \frac{(m+n)!}{m! \times n!} \]

A 4x4 grid has 10 possible paths from A to B

A 8x8 grid has 12,870 possible paths from A to B
Connectivity for Vehicles

Benefits of Grid

1. More routes
2. Less traffic!
3. Better circulation for
   - Emergency Vehicles
   - School buses
   - Garbage trucks
   - Postal Vehicles
   - Everyone!
4. Efficient utility systems
Power of the Grid: Suburban Model

Sandy Springs LCI Study
Grid Plan for Roswell Rd to Remove 6,000 cars
Power of the Grid: Urban Model

One Major Arterial Frontage

6 Lanes of Capacity - 1 Access Point

Grid Frontage

8 Lanes of Capacity

4 Access Points!
Two Kinds of Grids

Vehicular Grid

Desirable dimensions: 400 – 500 ft.
Two Kinds of Grids

Pedestrian Grid

Desirable dimensions: 200 – 250 ft.
Connectivity for Pedestrians

Benefits of Grid

1. Shorter paths for pedestrians
2. More pedestrian travel
3. More use of public transit
4. Less dependency on vehicle travel
5. Less traffic!
6. Economic development!
7. Healthier people!
Good Crosswalks Continue Sidewalks
Mid-Block Crossings

Urban model

Figure 98
Mid-Block Crossings

Suburban model
Barriers to Pedestrian Connectivity

- Long blocks
- High-speed traffic
- High-volume turn lanes
- Too many driveways
- No right of way or space for sidewalks
- No sidewalks, gaps in sidewalks
- No crosswalks
Barriers to Pedestrian Connectivity

- **Buildings not oriented to street**
  - Big setback with parking in front
  - No front doors
  - No windows
- **Barriers in pathways**
  - Retaining walls, fences and hedges at prop. lines
- **No cover or shade**
- **No streetlights**
- **No trees or landscaping**
Solutions to Pedestrian Connectivity

- Clustered land uses
- Mid-block crossings
- Pedestrian access plan
- Street orientation/build-to lines
- Grid system with short blocks
- Street trees and landscaping
Breaking out of Cul-de-Sacs

Planned Cul-De-Sac Pass-Throughs at Hunter's Creek

Arrows indicate cul-de-sac pass-throughs
Suburban Strip: No Connectivity

Typical Driveways on Highway Strip

PODS!
Suburban Strip: 1st Order Connectivity

Inter-parcel Access
Suburban Strip: 2nd Order Connectivity

Add Rear Parcel Access
What’s wrong with this picture?
Extend the Grid through Parking Lot

Internal Block Connectivity

Figure 15. Walkways through parking area.
Regulatory Tools for Connectivity

- Maximum block length
- Connectivity index
- Interparcel access required with cross-access easement
- Stub street requirement
- Prohibit gated streets
- Density neutral provision

Kentucky Transportation Cabinet, Street Connectivity Zoning and Subdivision Model Ordinance
Planning Tools for Connectivity

• Bicycle and Pedestrian Plans
• Multi-modal Access Plans and Connectivity Studies
• Mapped Street Ordinance
• Traffic calming
Strategy: Reinvent Parking

Surface parking... wastes valuable land

Mean walking distance 800 ft. radius

46 Acres
10% Streets (4.6 acres)
25% Buildings (11.5 acres)
60% Parking (27.6 acres)
5% greenspace (2.3 acres)
Urban Strategy: Roswell Road
Strategy: Reinvent Parking

Award Density Bonus of .1 FAR for each 1% of park area.

New streets = more grid connectivity
New condos and offices = mixed use development
New park = more trees/ greenspace
New parking deck = less visual blight
Sidewalk and Landscape Strip Pedestrian Connectivity
Result: Parking Lots Into Parks
Questions? Comments?