Chapter 13: From Connections to Networks to Places

Introduction

Chapter 13 is about describing what makes a great connection point, the barriers and competing priorities, and how to enrich the quality of the connection point. There are 2 aspects to making connections great: Timing and the Environment. Walker explores the different options via grids and pulses.

High Frequency Connections: From Pulses to Grids

Walker describes the best connection experience with infrequencies is when multiple buses/trains use the same platform/place to connect. A pulse is the event where fast connections occur even when service is infrequent. There can be more than one pulse in a network.

We learned earlier that it’s burdensome to wait for long periods of time for transit or the not so fun experience when you just miss your connection by a second. In a pulse network, it is important to calculate pulse point connection holds. These times vary with a mixed-traffic network vs a fully separated network. Many networks assume 1 min early and 5 min late is on time in a fully separated network. We have to also think about traffic signals as well and if not prioritized for transit can increase the hold time. Increasing frequency decreases the need to pulse.

The Joy of Grids

Walker describes the overarching benefit of a grid is being able to travel from anywhere to anywhere. Within a grid, the parallel lines can stretch as far as 0.6 miles away from each other and still be usable.

There are two common grid patterns and most cities need a hybrid of the two:

- Rectangular: parallel north, south, east, and west lines
- Spiderweb: lines radiating from center and circular lines orbiting. These are best when you have a dense focal point.

A good grid system has cross town lines usually end on the city limits. This maximizes the range of where you want to go in a single connection. Grids connect any two points rather than selecting a preferred destination like radial and pulse networks do. Grids require high frequency <15 minutes.
Three Reasons For a Connection

Walker describes three barriers with connections including geometric, political and technological.

1. Geometric required connections:
   - Changing direction within a grid
   - Connecting between lines organized around pulses
   - Connecting between services of different speeds ie rapid and local

2. Politically required connections occur at government boundaries to move from one agency to another. These are the most difficult to deal with.

3. Technologically required connections occur when the technology used by a service has an end of line and to continue on, you have to use a different mode of transportation. i.e. the electrical wiring for a streetcar stops just short of the city limit and there’s a bus to take you the rest of the way.

From Connections to Urban Form

Walker explains three competing priorities that must happen at connections:

- High volume of time sensitive transit lines that need to connect with each other
- Some transit services terminate which means a need for storage and break facilities for the vehicles and operators
- A central hub that provides access to other location

Connection points are prime locations for transit oriented development. Living on a connection point means it’s more likely people would rely on rapid service vs local lines. Having transit oriented development overall means people would likely rely less on cars.

Connections should have both buses and trains converge so that transfers can happen along with operator break areas. Many cities however separate the two as they feel buses are not ‘pretty’. Walker introduces an urban development design called an inverted couplet to include all three..

Questions from From Connections to Networks to Places

1. What question would you ask another city on their redesign with Walker as it relates to connections?
2. What is the longest time frame you’d want to wait at a pulse connection?
3. Compare and contrast the conne Doraville from the Five Points station based on the type of connection (geometric, political, technological)
4. Where would an ideal place for a connection be in Atlanta?
   a. Think safety, transit oriented development, cleanliness…
5. What are the elements needed to make a connection environment safe and pleasant to use (i.e. shelter, bench, retail)?
   a. Feel free to use a digital drawing tool (such as https://sketch.io/sketchpad/) or paper to sketch out the environment
6. What parts of MARTA fit a rectilinear grid vs a radial grid? Use the MARTA bus map to explore.
   a. Think…intown street grids vs the beltline, perimeter, and radial arterials
   b. Interactive Map Link:
      https://martaonline.maps.arcgis.com/apps/webappviewer/index.html?id=0ce5941618fe4cfe827155225d9640cc