

# CLUSTERS AND CONNECTIONS V1



This stream of thought originates from a presentation made by Prof. Alfonso Vegara at the Paul Reed Memorial Lecture in 2013, UNSW.  
<http://www.be.unsw.edu.au/utzon/previous-series/2013>.

He talked about Clusters of land uses. The graphics simply shows lines between places of like 'minds', he talked of the Global knowledge based economy.

One slide showed a series of links across a Health Cluster within a City. It illustrated how the walk connections would be used by health people and how the identity would be strengthened by a strong axis (or two). A logic for connecting buildings to a green network. The same applies in the centre of City: Finance; culture; government.

He illustrated how a TGV between Lisbon, Madrid, Marseille, and Milan would provide a 4 hr. door-to-door journey from Madrid to more 'Latino' culture. Thereby reinforcing knowledge exchange, a return trip in a day. (HS2 is also being justified on this basis but the argument is lost to many of the British public). Back of an envelope would suggest about 1500 trips daily between Madrid and Milan for intellectual groups to meet occasionally.

A telling slide was the paths between establishments in the Fashion Industry in Bilbao. The fashion houses are supported by the rag trade, the buyers, and the local suppliers. The axis could describe the need for a taxis service or for larger cluster Light Rail.

Regional Cities share knowledge and cultural centres supporting connections (Guadalajara, Mexico). Could these be the same for regional centres within Cities (as some would so like to happen in Sydney)?

I knew it blew me away and it took a year to interpret; a completely new way of looking at a City, not commuting, not the distribution of goods; but links so strong they make the City work.

I'd been doing some work on the value of creating serendipitous meeting places within residential streets following a network of very safe streets, concentrating resources not spending everywhere. This applies equally to a new creative cluster. We'd also taken 'commuter cyclist' network and added an inter-district (8k) green ways as the legible axis in a larger cluster.

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In another network we've been looking at the chance meeting of public transport routes somewhere in suburbia, not the recognised regional centres. Sydney has at least six places where five or more routes (could) cross. These 'Portals' are the places where new higher order public transport services can be launched generally at less cost than from centres. Alfonso adds the potential for a new cluster to form. Read on to V2.

## CLUSTERS AND CONNECTIONS V2

**PURPOSE:** Optimising an infrastructure program to facilitate growth.

1. The relationship between connectivity and the creative places.
2. The global knowledge based economy is focusing more on people meeting.
3. An aging active society means more walking in neighbourhoods and less driving.

### Clusters

4. **Knowledge based communities cluster together, or travel frequently to meet, for social/ intellectual support.**
  - a. A knowledge community exists between people of like minds (Economists, architects, finance)
  - b. [Manufacturing businesses cluster](#) together to economise moving goods (Car parts, distribution and retailing).
5. **A cluster therefore describes points between which there is a movement of people or goods (at any scale).**

### Decay

6. A cluster remains sustainable [if there is time/cost to meet](#), **if the connections slow down, or the amenity deteriorates, knowledge and economic clusters can fall apart.**
  - a. **Roads and freeway** provide regional and local connectivity and **are unreliable, including regional freeways. More system flexibility will better balance a city.**

### Connections and places

7. **Legible connections (walk, ride, transit, street style) add value to the identity of a cluster within the urban mix.**
  - a. A local cluster; such as, a creative precinct, can **flourish with good walk links** as the connections.
  - b. A specialist cluster; such as, a set of tourist facilities, may stretch over a distance and **be defined by the character of the route** (e.g. Light Rail or style of street).
8. Adding **new places** within a cluster increase serendipitous meetings ideal for creative mixing. (Grouped seating on a street corner or in an interchange).
9. More **specialised knowledge means more dispersed clusters requiring greater – quicker – connectivity.** (4 hrs for a quarterly Inter City meeting, 40mins for a monthly Inter Metropolitan meeting).
  - a. Or a new cluster forms in a new location; **connections need to respond.**
10. Expanding connections (walk/ride/transit/[?Freeway and City]) adds the opportunity to expand the cluster.
11. Regional Attractions attract employees and 'customers' from their own regional catchment and are not all located in regional centres (Uni, Hospital, isolated shopping centre).

- a. The availability of land is a strong determinant in the location of new regional attractions
- 12. Regional Reliable, High Quality Connections (RHQC) are required throughout dispersed cities
  - a. By radiating from all regional attractions they serve the entire catchment.
- 13. And together these RHQC form a complete network within a Metropolitan area competing with roads. (e.g. Paris Metro then Bus)
  - 1. RHQC will become part of the 'Autocar' network in the middle future. (Further reference to be completed)

### Systems and supports

- 14. Clusters are served by one or more of three transport systems; active, traffic and public transport.
  - a. They weave together.
- 15. The Active System is fundamental for tight clusters.
  - 1. Footpaths become bikeways become regional greenways.
  - 2. Quick reference to genre of Active Transport (To be completed).
    - a. B1 Biped (no kerb, not desirable!);
    - b. B2 +Buggies and Prams, wheelchairs, scooter. (Ramps)
    - c. B3 +Bikes (Slow shared)
    - d. B4 +Boards Commuter cyclists (Segregated) – Green Ways
    - e. B5 +Blades (Wider and flatter)
- 16. Traffic is not discussed further but also follow a recognised hierarchy; expressed here as film classifications.
 

1.	G	Shared (Laneway Main street crossings)[B2]
2.	G	Local Slow – Green Streets B4
3.	PG	Local Connector B3
4.	PG	Connector/Bus Route B3
5.	PG	Main Street + crossings B3
6.	AO	Manufacturing, Distribution + Crossings B2
7.	AO	Arterial - Segregated
8.	X	Freeway Traffic Only
- 17. A series of small capacity public transport systems (**Bus/Express bus, HOV, Dolmus, Light Rail Metro [LRM]**) have greater benefit, and cost less, than for one larger system.
  - a. Less critical mass is required to support small capacity transport systems.
- 18. The active systems work with the public transport systems.
 

1.	Local	1k	- walk, bus
2.	Moderate	3k	- bike, bus, HOV+, Light Rail,
3.	District	5k	- Green Ways, HOV+ <b>Lux Bus, LRM.</b>
4.	Regional	8k	- RHQC - Lux Bus, LRM, Rail, Express.
5.	Metropolitan	25k	- Express Bus, <b>Railcar</b> , Express Rail.
6.	Inter City	100k	- Railcar, Express Rail.
7.	Inter State	900k	- TGV .
- 19. The systems are supported by the sum of the activities they serve.
- 20. A **TGV benefits the global economy with two-way value added knowledge exchange** and is **supported by tourists, and family trips.**
- 21. **Express** links **within** regions (bus or rail, O'Bahn, Rail/Tram [e.g. LA]) benefit specialist clusters (Uni, Hospital, Culture) and are **supported by family trips, commuters, recreation, retailing.** (Changing time-table of stopping trains can impact a town.)
- 22. **Metropolitan Express Networks (Rail, Railcars (Clippers), O'Bahn) support single Metropolitan Attractions (Opera House, National Gallery).**
  - a. **This is a two-way flow, e.g. cultural and knowledge exchange.**

23. **The networks are seldom balanced in a Multi Nodal metropolitan area; centres with stronger connections will flourish at the cost of the others.**
  - a. **New links rearrange the balance.**
  - b. **Conversely low land values can/will create entirely new clusters 'outside' the 'efficient' transport network.** (e.g. Macquarie Park)
24. **Inter-Regional Express Routes will not spread the business function of a Metropolitan Centre but rather strengthen it to a single cluster dependent on serendipitous relationship between finance, government and culture.**

### **Portals**

25. **The critical mass to support a higher order connection – faster, more comfortable – occurs at the confluence of local or regional connections.**
  - a. These are generally located at regional interchanges.
26. **The confluence of a series of (new) lower order connections can create a 'portal' to support a new higher order link.** (E.g. Local Priority to express bus or Light Rail Metro)
27. **Portals are located by the connections themselves not the geography or land use.**
  - a. New portals also have the opportunity to create a new local cluster.

### **Conclusion**

28. This approach is that it's not about commuting it's how a city works.

### **NEW APPROACHES**

1. Three legible transport systems; active, traffic and public transport.
2. Regional attractions have their own regional catchments.
3. Reliable High Quality Public transport routes could provide these connections at minimal cost.
4. These will form a complete metropolitan Network.
5. A new confluence of local connections can create the critical mass for luxury express connections.
6. Portals are located by connections not geography.
7. Small capacity systems have greater benefits and cost less than one large system.
8. Rail cars and luxury express buses could provide Inter-Regional transport where railways are not viable.
9. Inter-Regional Express connections will not spread the unique functions of a Capital City.
10. An ageing active society means more walking in neighbourhoods.
11. New places allow for serendipitous meetings of groups.
12. More specialisations means wider spread clusters requiring quicker connections (or the ability for new places clusters to settle).