



Railways and geography in Western Australia

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How do railways interact with land, places and people

- 1. Physical effect on land and landform**
- 2. Involvement in development/change over time**
- 3. Connection of people and places**

1. Physical effect

- The physical effect can be obvious, especially when a railway is new
 - Earthworks, bridges
 - Forced changes to existing occupation





- After 40 years the line blends in to the landscape
- But this is through undeveloped land (National Park)

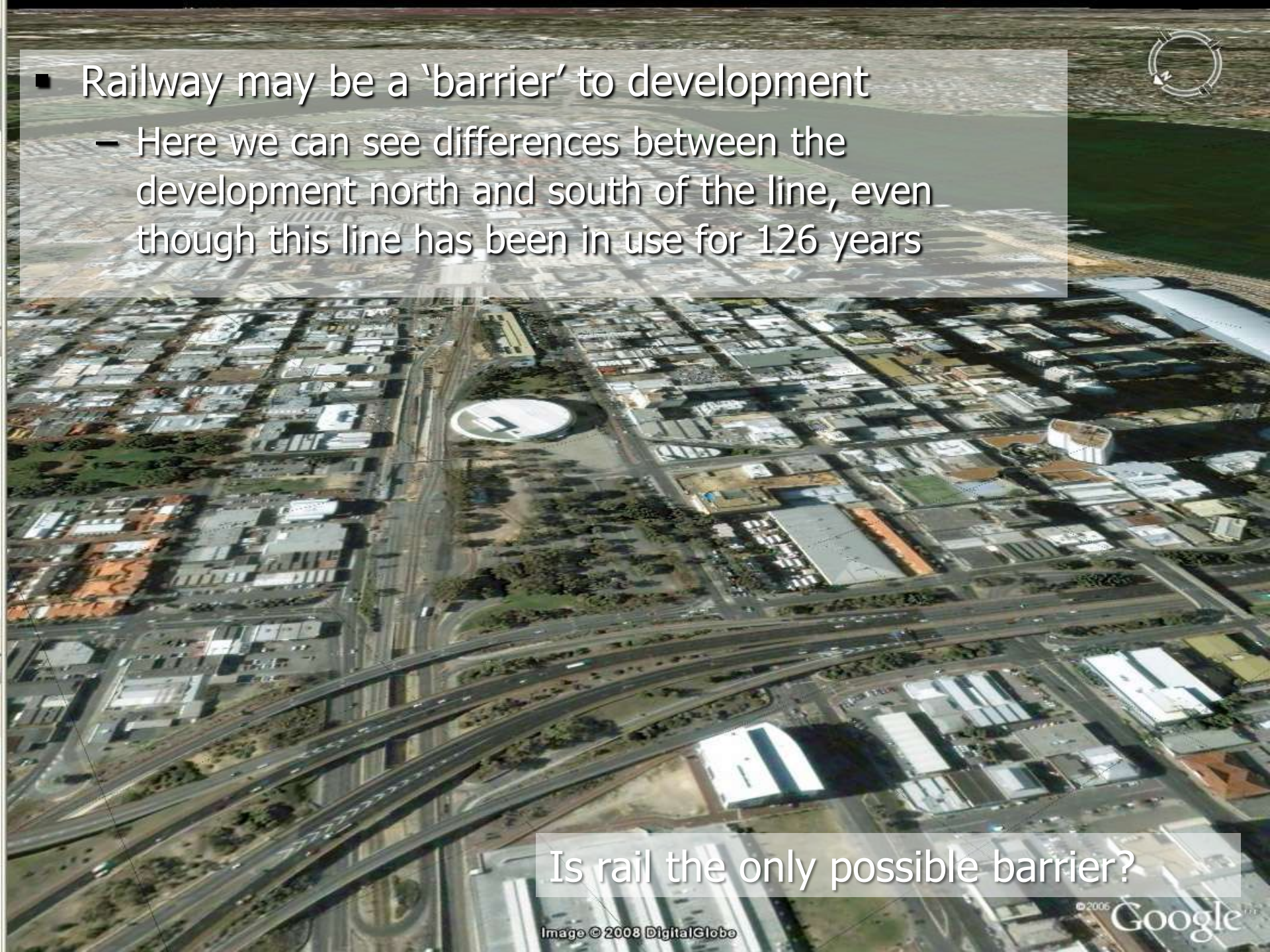
- **Railway in the landscape**
 - Neat arrangement of paddocks around the railway (Moora)



More complex example (Merredin)

Standard gauge (1967):
Built after settlement – see
how it splits the roads and
paddocks

Original narrow gauge (1894):
Built before settlement –
paddocks don't line up on the 2
sides of railway, roads also in
some cases

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- Railway may be a 'barrier' to development
- Here we can see differences between the development north and south of the line, even though this line has been in use for 126 years

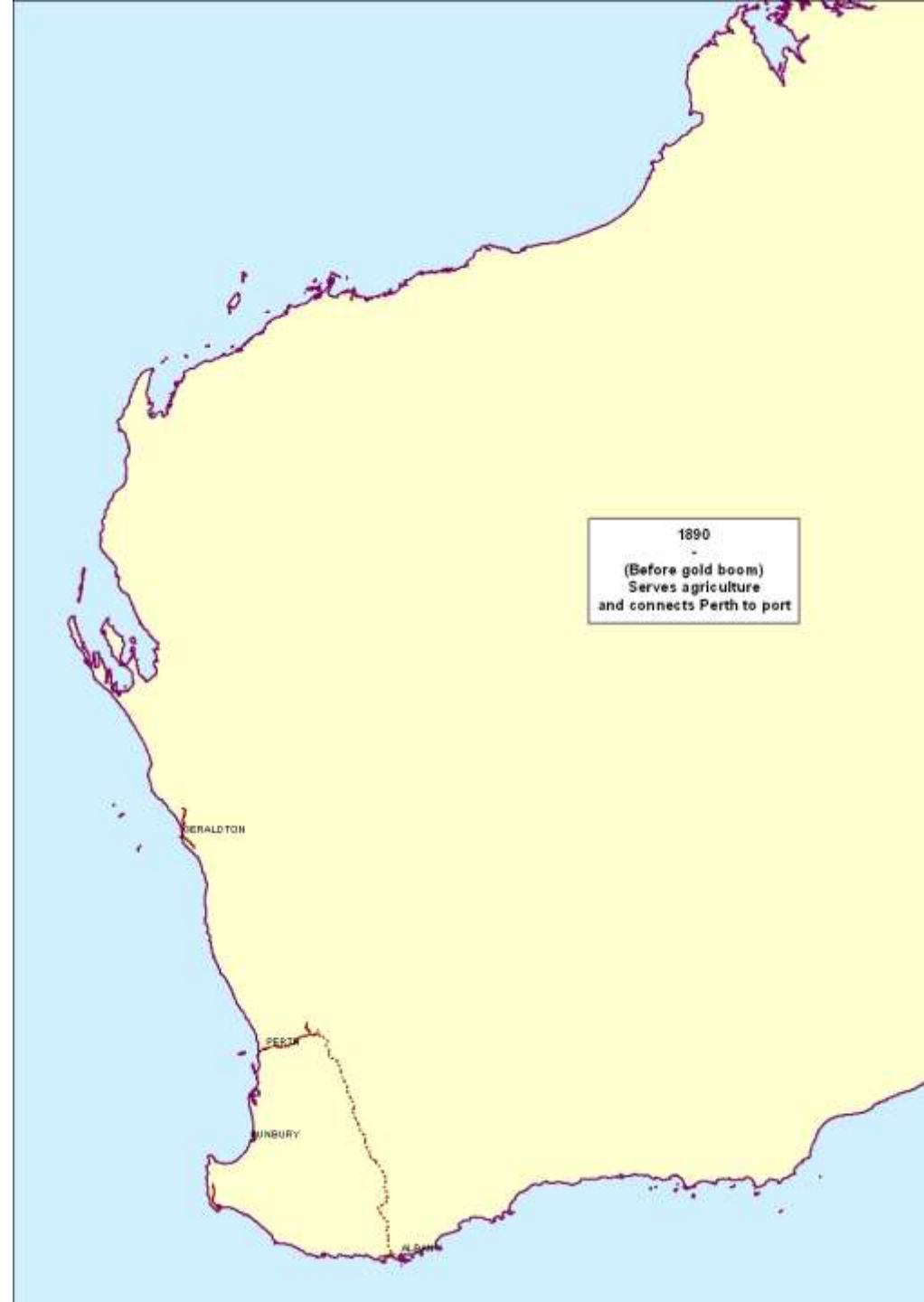
Is rail the only possible barrier?

2. Role of railways in development of WA

- Watch the railways spread across WA over the years

■ Railways - 1890

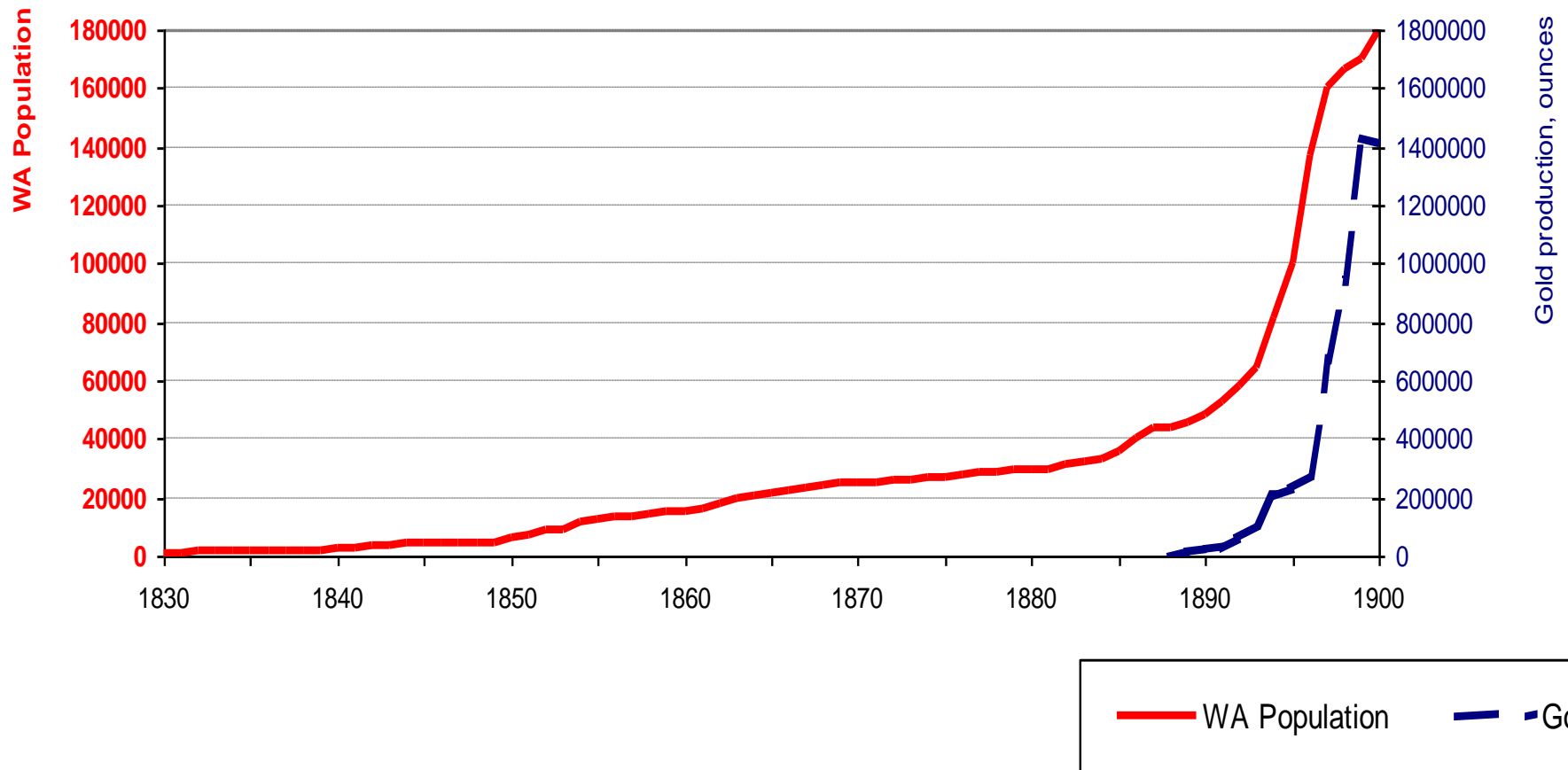
- Gold discoveries starting
- Serves agriculture
- Population 48502
- Private line connects main port to capital



1880 and 1900: Two different Western Australias

WA - 1800s

Population and gold production



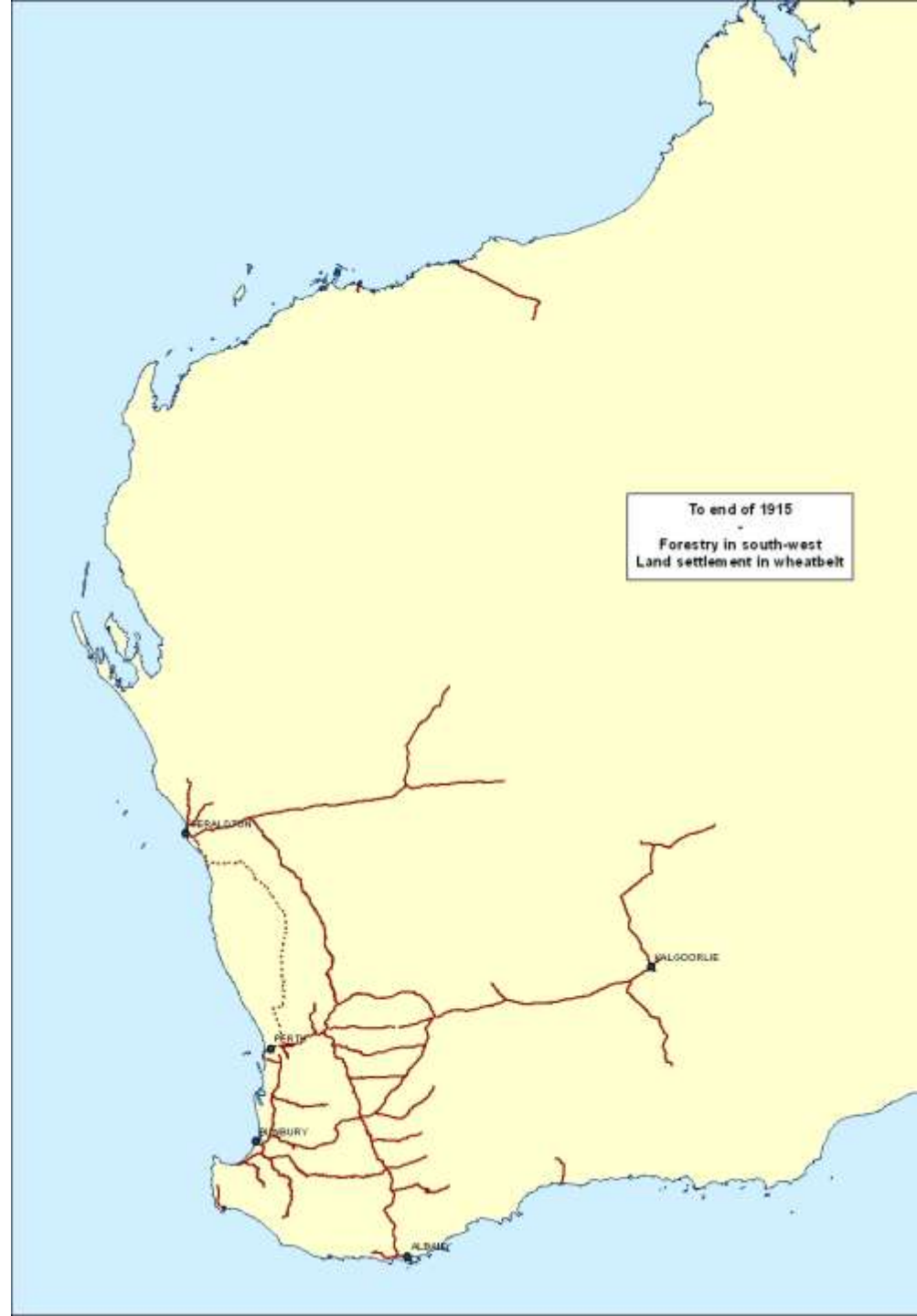
■ Railways - 1900

- Effects of gold strikes in Yilgarn and Murchison
- Albany line purchased by government, but Midland private line opened
- Population 179967



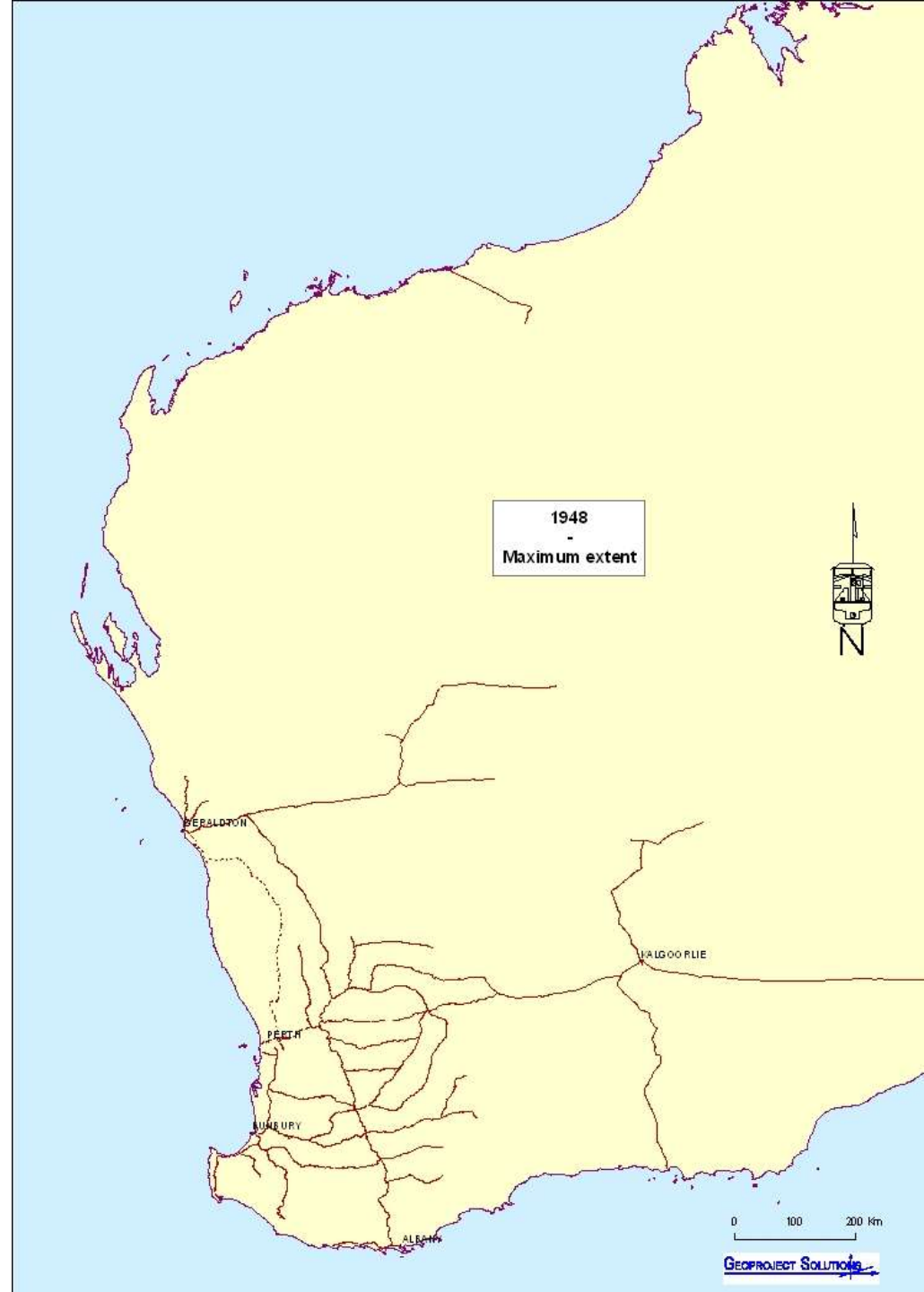
■ Railways - 1915

- Forestry in south-west
- Land settlement in wheat belt



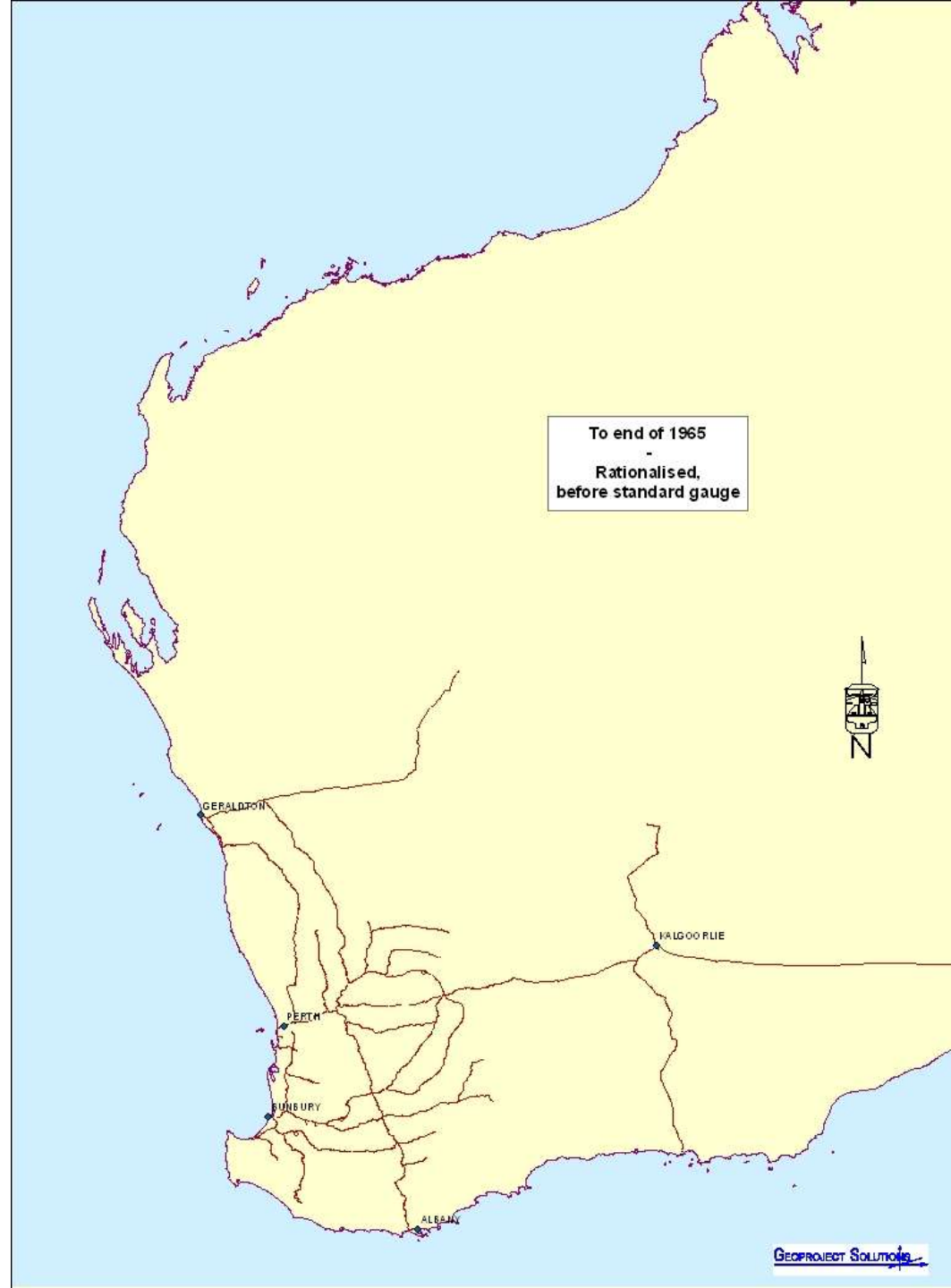
■ Railways - 1948

- Government lines at maximum extent
- Before standard gauge



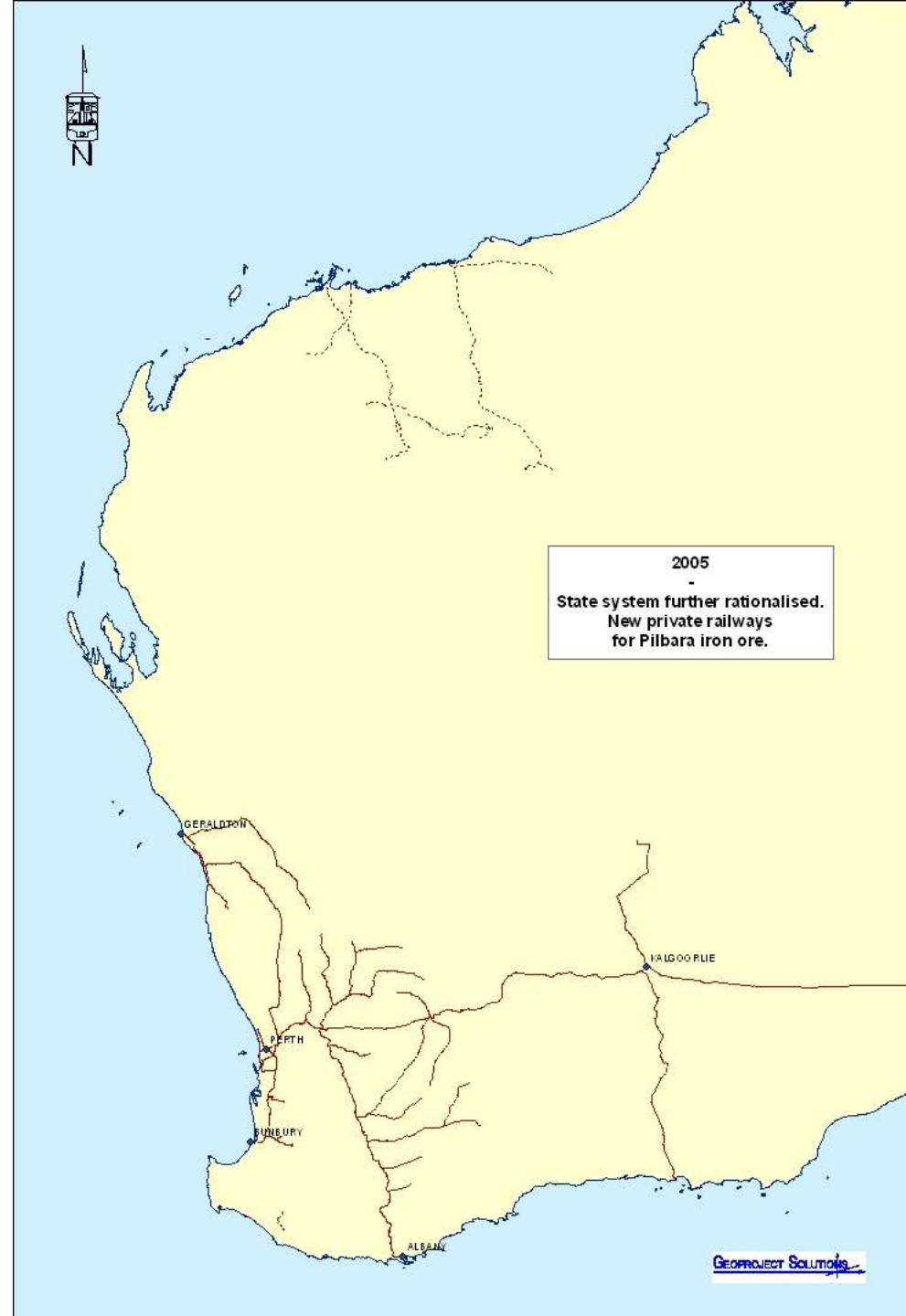
■ Railways - 1965

- Government lines rationalised
- Standard gauge now committed, but not yet open



■ Railways - 2007

- Standard gauge busy
- Iron ore lines booming



- **What were all those railways doing in WA ?**

Look back at 1948, when government lines at maximum extent

We can compare them with population – where were the people of WA then?

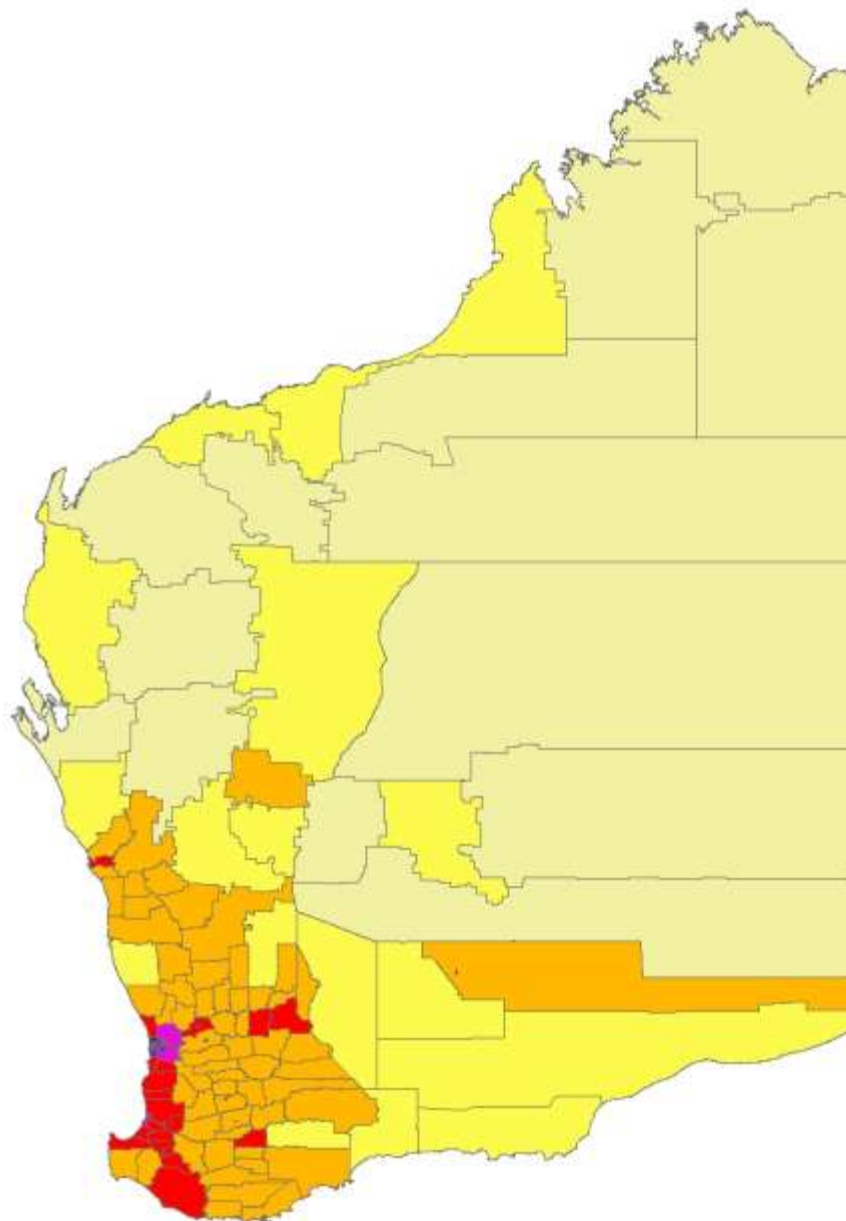


Population density Western Australia 1949

Persons per sq km



Population densities calculated
from population estimates for
Local Government Areas,
as at 1949



Notes:

Population estimates for 2005, per LGA, from ABS 3218.0 Regional Population growth
Population estimates for 1949, per LGA, from Little, R. J. (Government statistician):
"Statistical Register of Western Australia for 1948-49", Perth WA, Government Printer 1952.

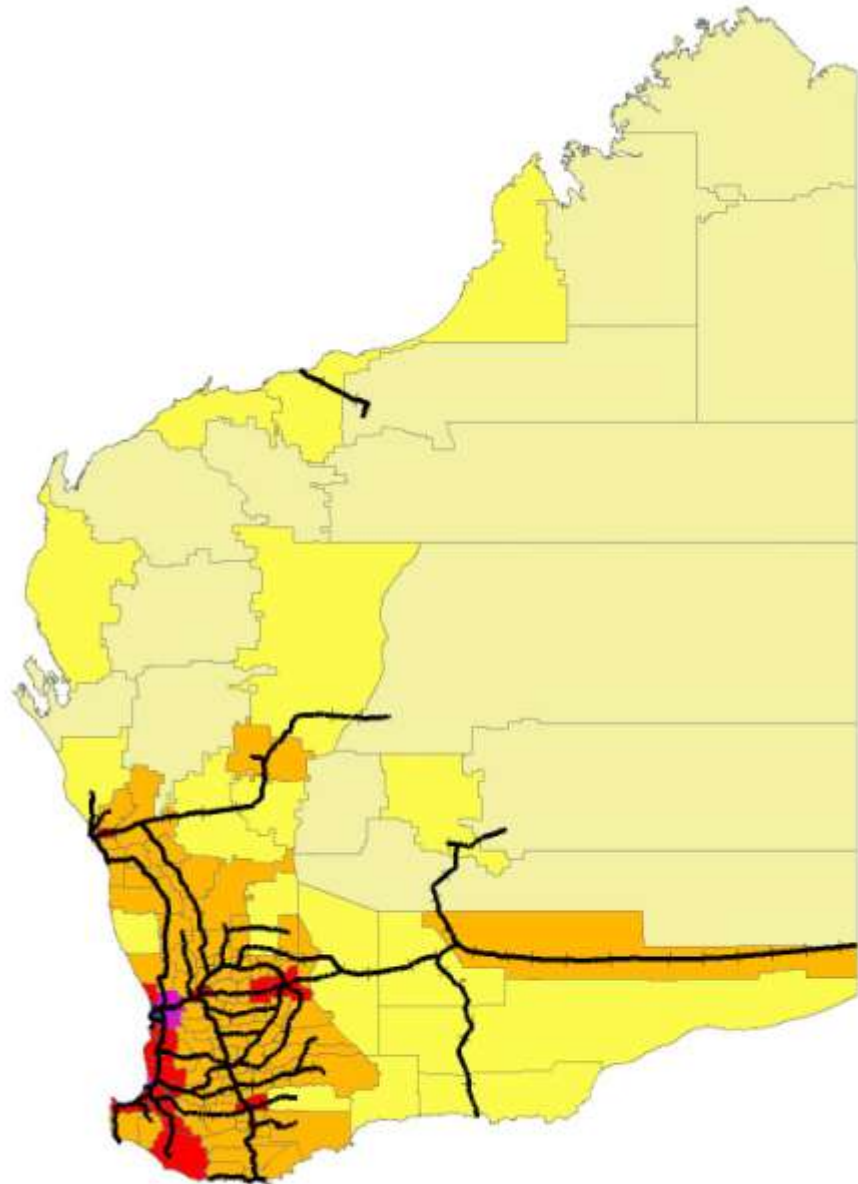
And where were the railways?

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
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A different example - consider where WA's grain was grown in 1949

Grain production Western Australia 1949

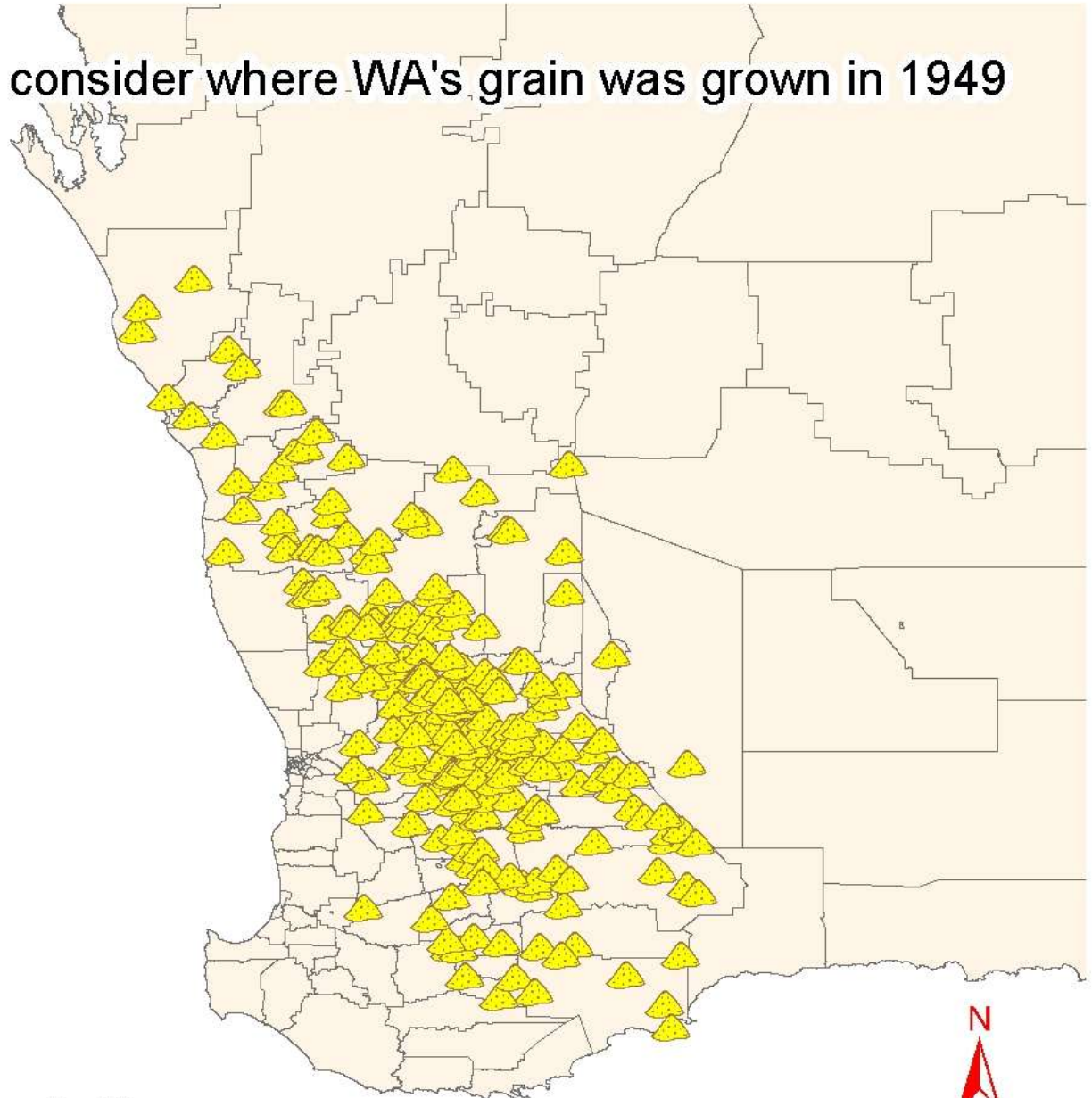
Grain growing by LGAs

 5000 tonnes grain grown

 Rail open in 1949

Total WA grain production 1949: 1.1m tonnes

Grain distribution calculated
from wheat and oats bushels for
Local Government Areas,
as at 1949



Notes:


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And note where the railways had been built to that time:



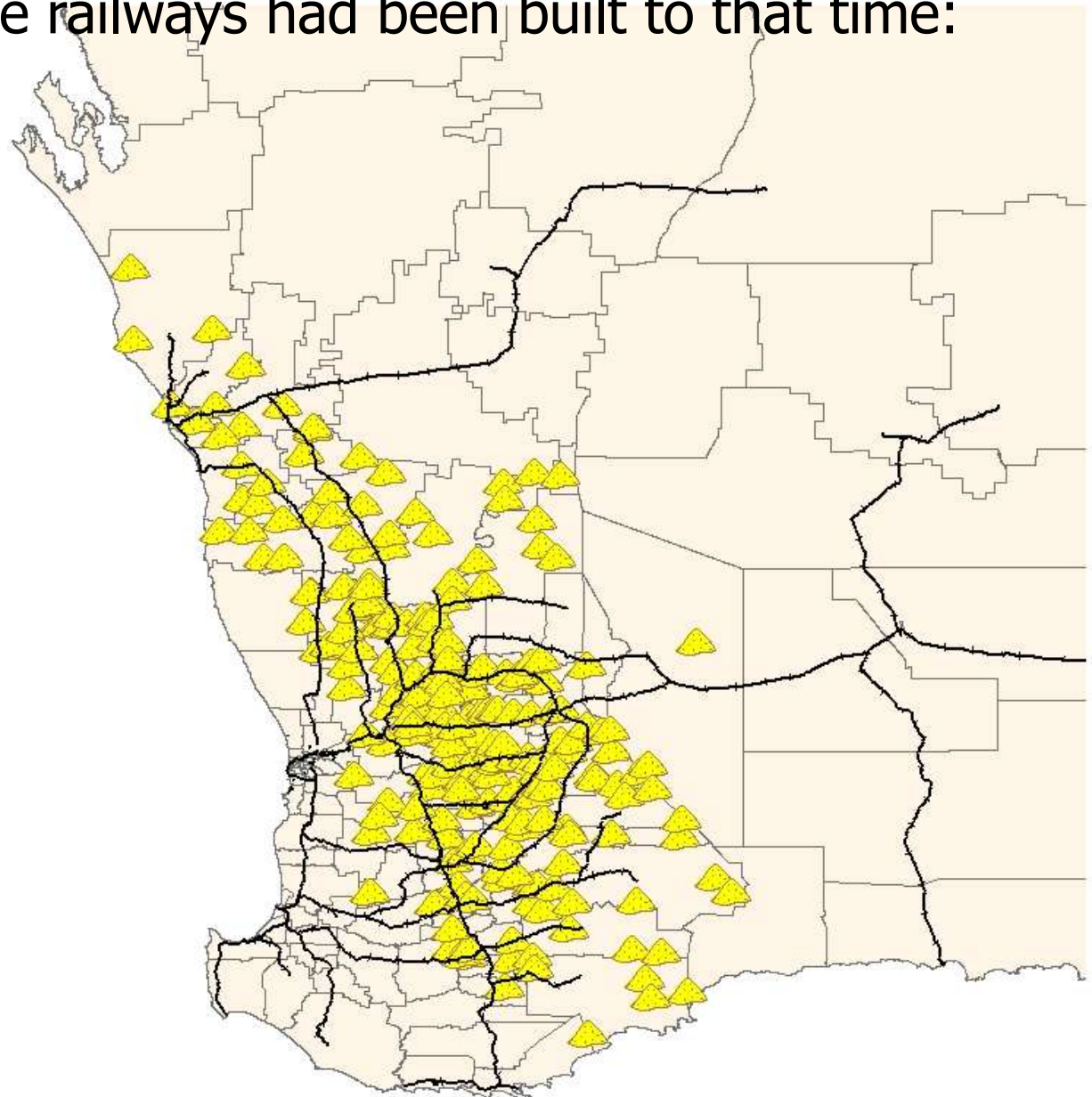
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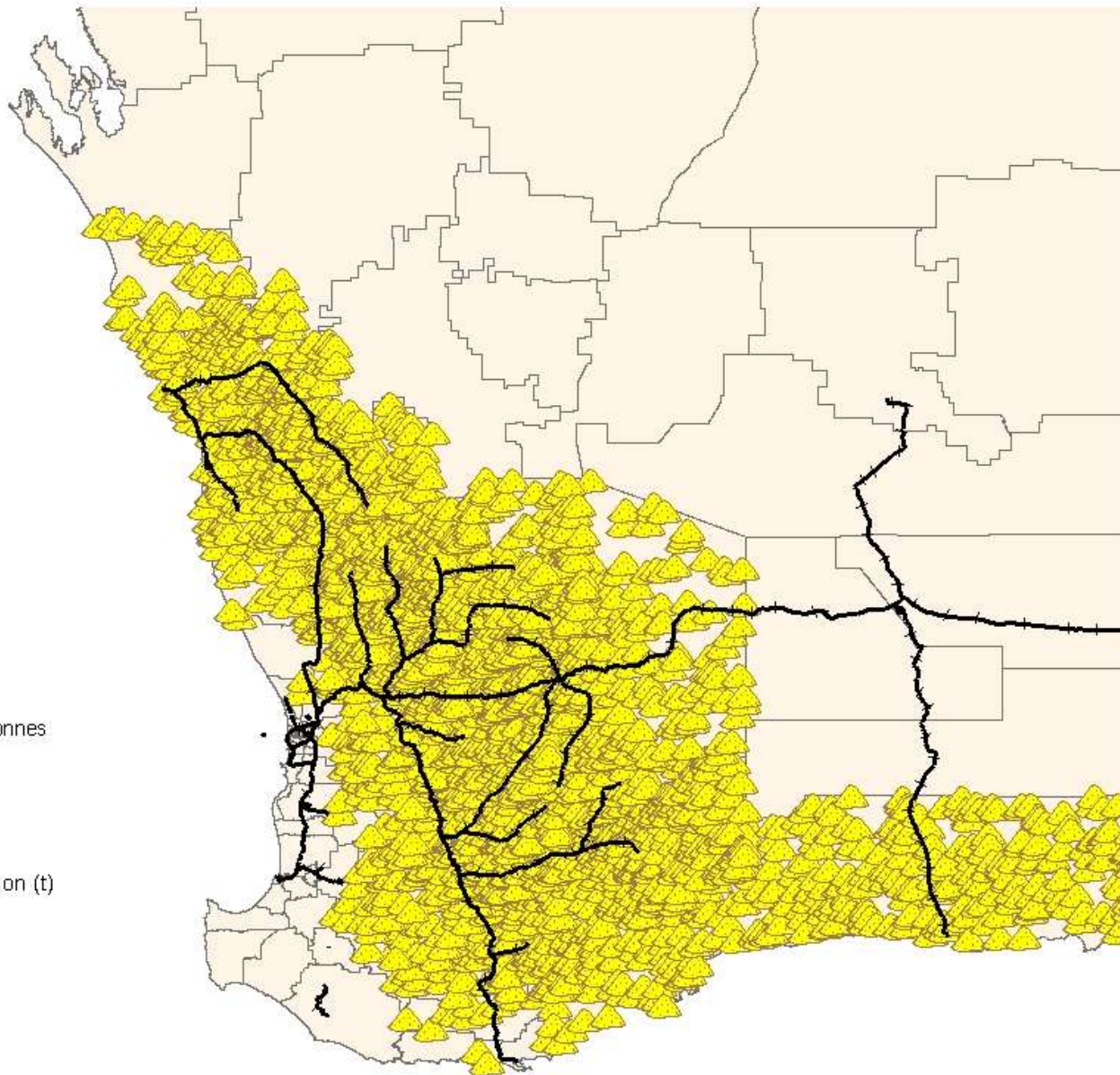
Grain production Western Australia 2006

Grain growing (tonnes)

 5000 tonnes grain grown

 Rail open in 2006

Total WA grain production 2006: 12,143m tonnes



Grain distribution calculated from
Cereal crops - Cereals for grain - total production (t)
for Statistical Local Areas,
2005/06

Notes:

Grain production for per LGA, from
ABS publication
"71250D0028_200506 Agricultural Commodities:
Small Area Data, Australia, 2005-06"

A different interaction

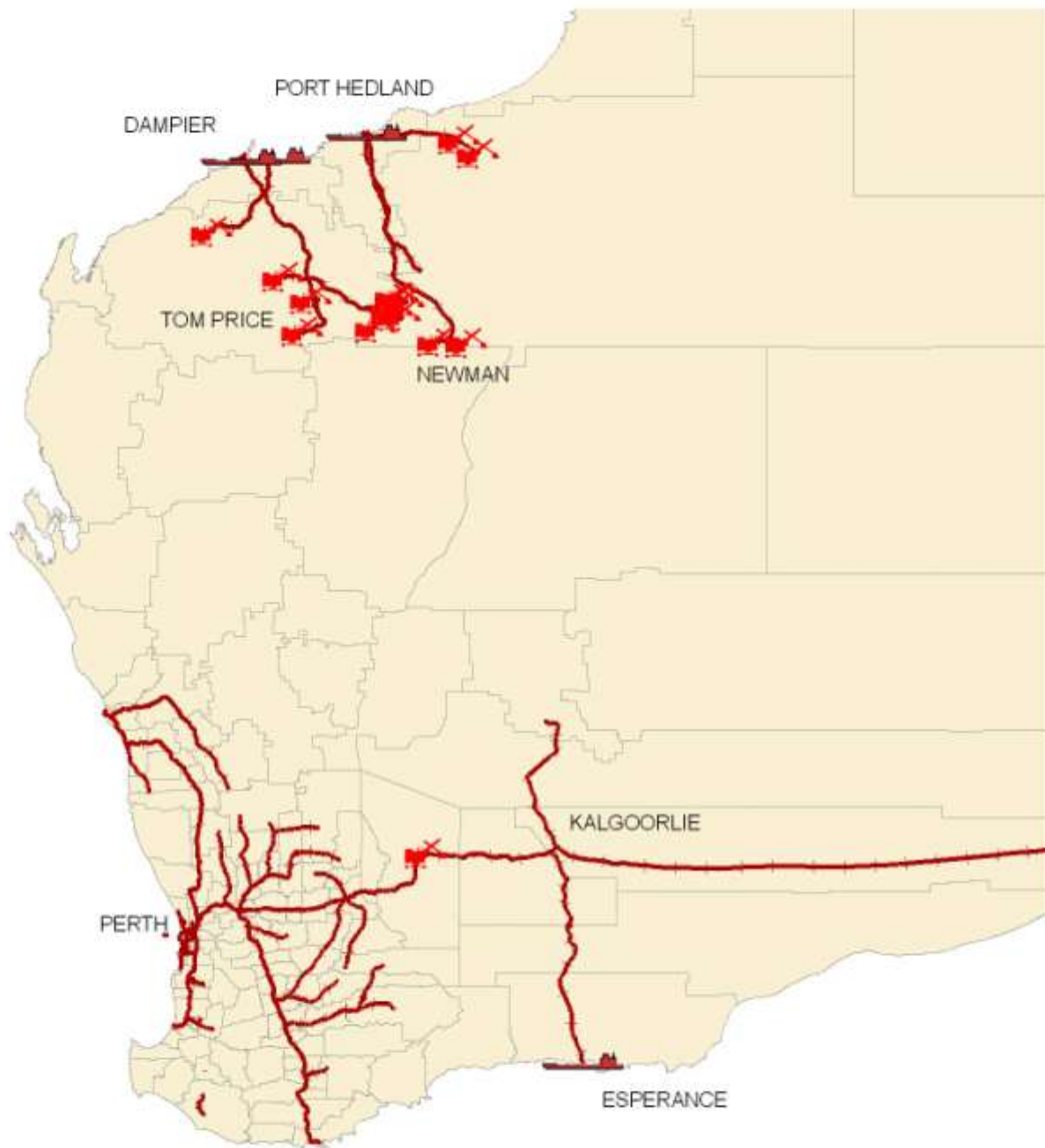
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- **A different example of role of rail in development of and change to our use of land**
 - More recent
 - Rail construction based on a specific need – which funds the rail



IRON ORE MINING AND PORTS

Mines and ports

-  Iron ore mine
-  Port
-  Rail_major



Effect 3: connection*

- **Transport links and their components such as bridges and tunnels, change the relationship of places**
- **We can obtain supplies of all sorts from far away**
 - **Then we can worry about depending upon them!**
- **The big change in the time taken to transport goods overland occurred with trains**
- **Completion of the railway moved Kalgoorlie closer to Perth, by a much greater margin than it was later moved closer again by the introduction of air services**
 - **Transport before the railway, by horse or on foot, took many days or even weeks**

*Acknowledgements to Professor David Dolan – see endnote

Consequences of closer connection

- **Once large number of people can and do travel, we perceive the world as smaller, and exotic places as closer.**
- **It is not necessary to live within walking distance of one's work**
 - West Australians do not tend to live in the dense tenements which were a necessity for our ancestors in UK or Europe

Background

- Many great engineering projects were undertaken for political reasons.
- The Forrest government's support for the Kalgoorlie railway and pipeline was motivated largely by the need to lock the economically important goldfields into WA. In the lead-up to federation, there was talk of secession. The colonial government built the Pipeline and the railway, and thereafter the goldfields were literally tied to Perth and Fremantle, and connections with Esperance diminished. At the next level, the participation of WA in the newly federated nation of Australia was secured by the commitment to build the transcontinental railway which functionally, and visibly on the maps, tied the west to the east.

In summary

- **Physical effect of railways**
 - On landscape and people
- **Relationship to development**
 - Can be transient
- **Connection – people and places**
 - To work
 - Wider world
 - Political connection/control

Acknowledgements:

- Professor David Dolan: C.Y.O'Connor address, 2007:
 - ***C Y O'CONNOR AND THE IDEA OF THE ENGINEER AS ARTIST AND WARRIOR***
- Google Earth
- PTA – photo of *Prospector* (print courtesy P.Rogers)