

The opportunities for research within the CycleSafe Network proposal

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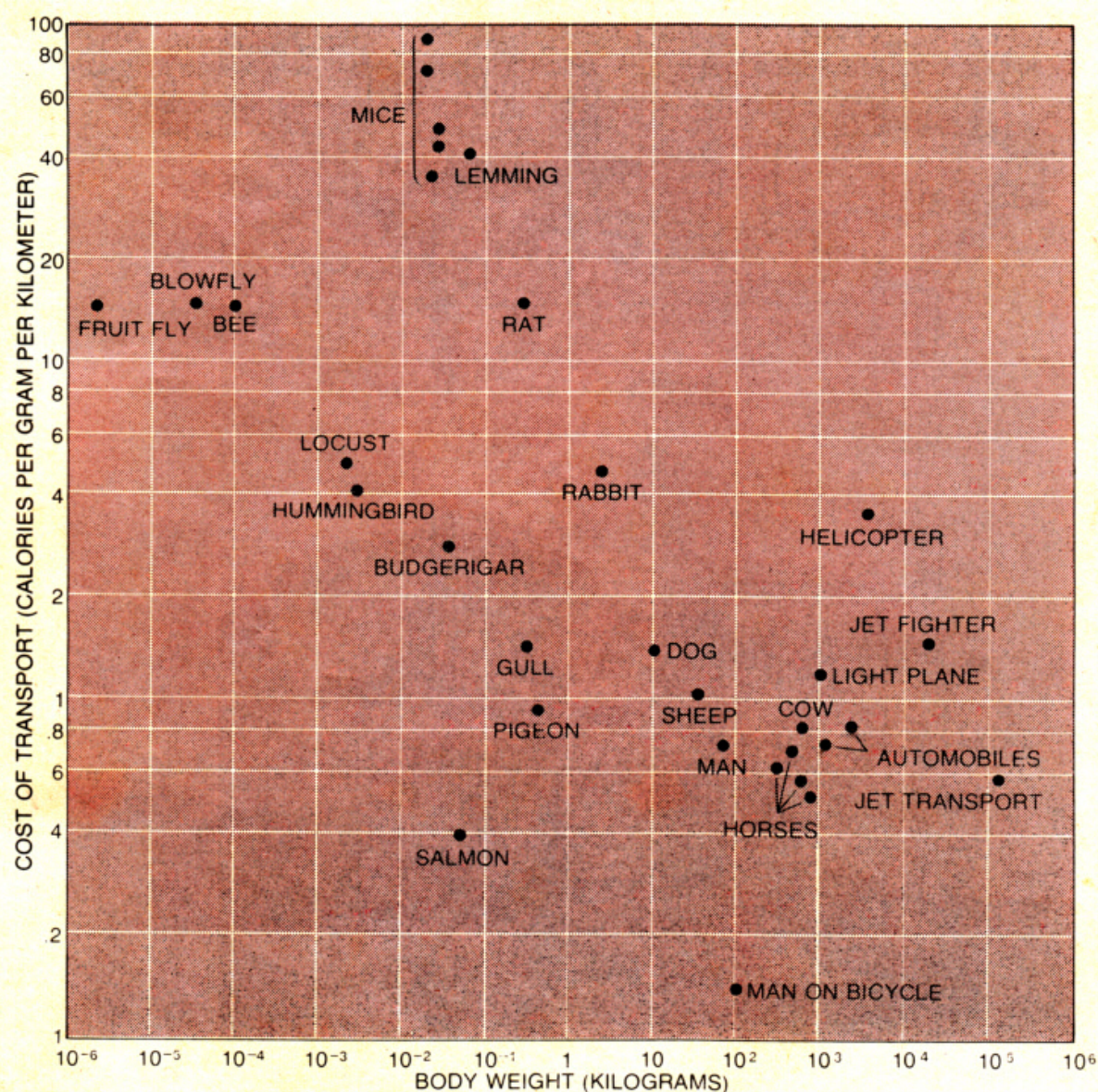
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Smart City.....





MAN ON A BICYCLE ranks first in efficiency among traveling animals and machines in terms of energy consumed in moving a certain distance as a function of body weight. The rate of energy consumption for a bicyclist (about .15 calorie per gram per kilometer) is approximately a fifth of that for an unaided walking man (about .75 calorie per gram per kilometer). With the exception of the black point representing the bicyclist (*lower right*), this graph is based on data originally compiled by Vance A. Tucker of Duke University.

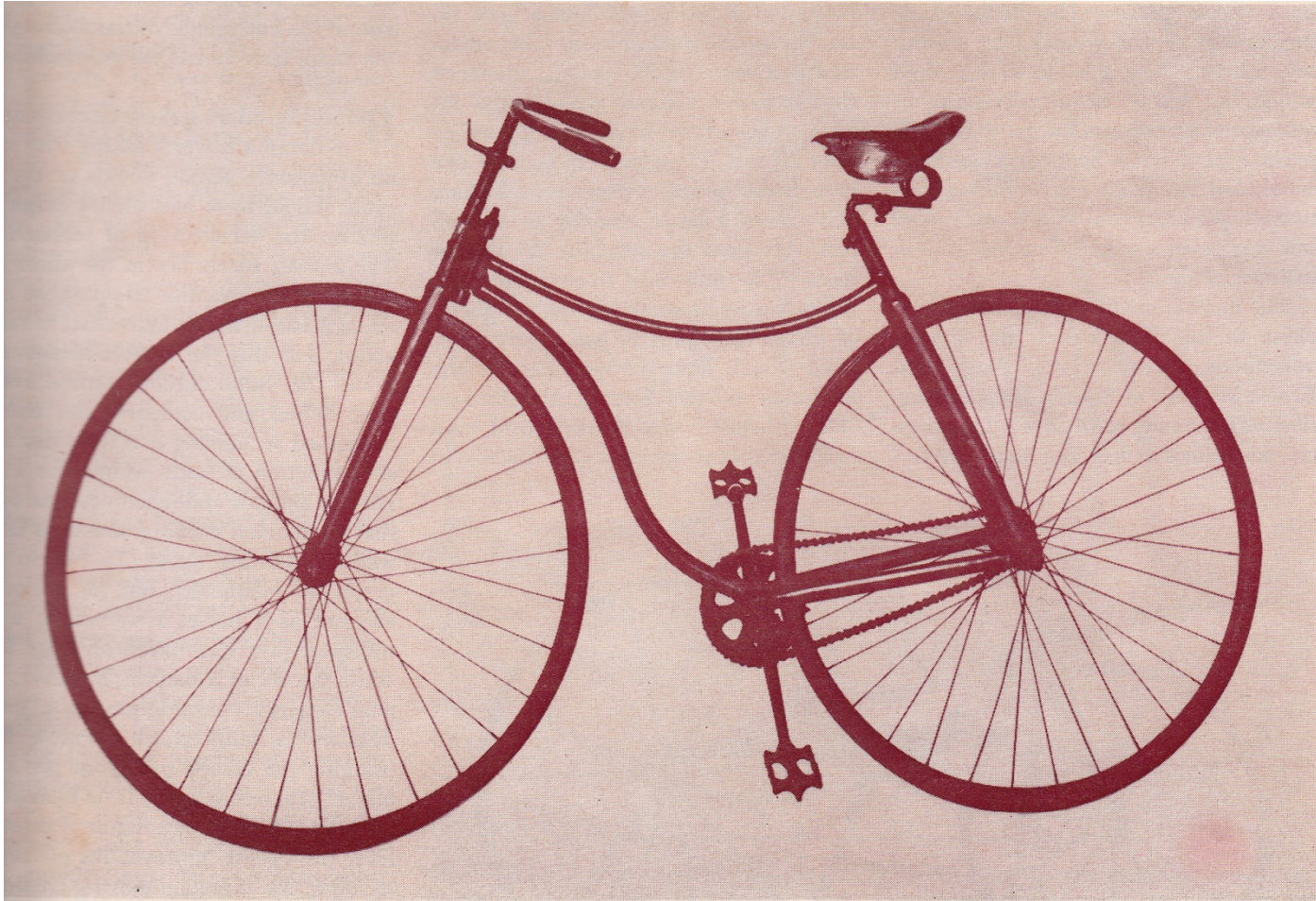


How many people per hour can travel on a 3m wide corridor?

- Freeway: 2000 cars/hr = 2400 people /hr
- Heavy rail: 25,000 people /hr
- Cycleway: 5400 people /hr



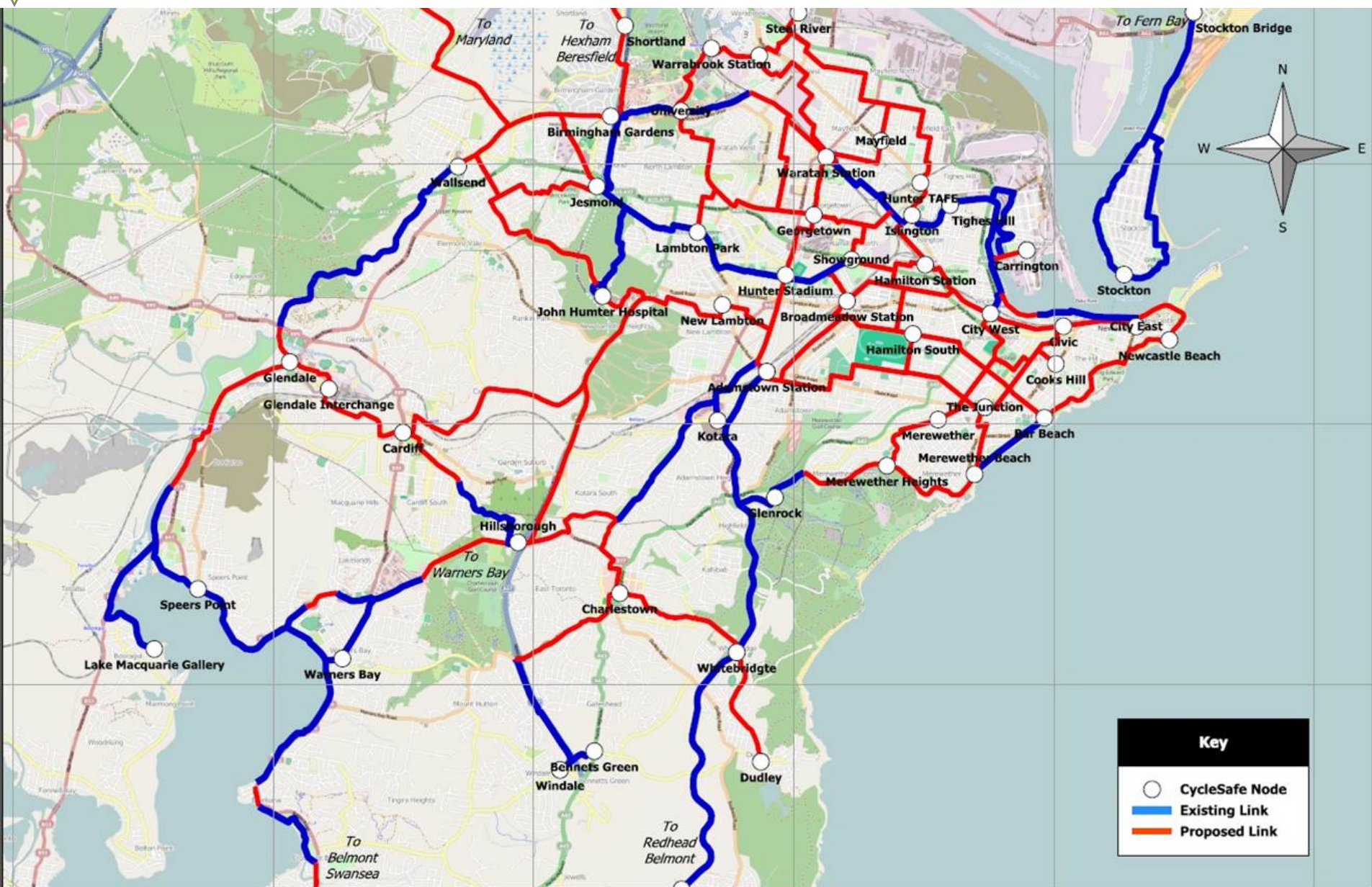
The Rover Safety bicycle. 130 years



OVER SAFETY BICYCLE, introduced in 1885 by J. K. Starley of England, is widely regarded as marking the final development of the bicycle form. The Rover had most of the major features of the modern bicycle: rear-wheel chain-and-sprocket drive with a "geared up" transmission, ball bearings in the wheel hubs, tangentially mounted wire spokes, lightweight tubular-steel con-

struction and a diamond-shaped frame. Unlike most modern bicycles, the Rover incorporated two curved tubes without the extra diagonal tube from the saddle to the bottom bracket; also the front forks, although sloping, were straight instead of curved. Unless otherwise noted, the old vehicles shown in the photographs used to illustrate this article are now in the Science Museum in London.







CSN treatments

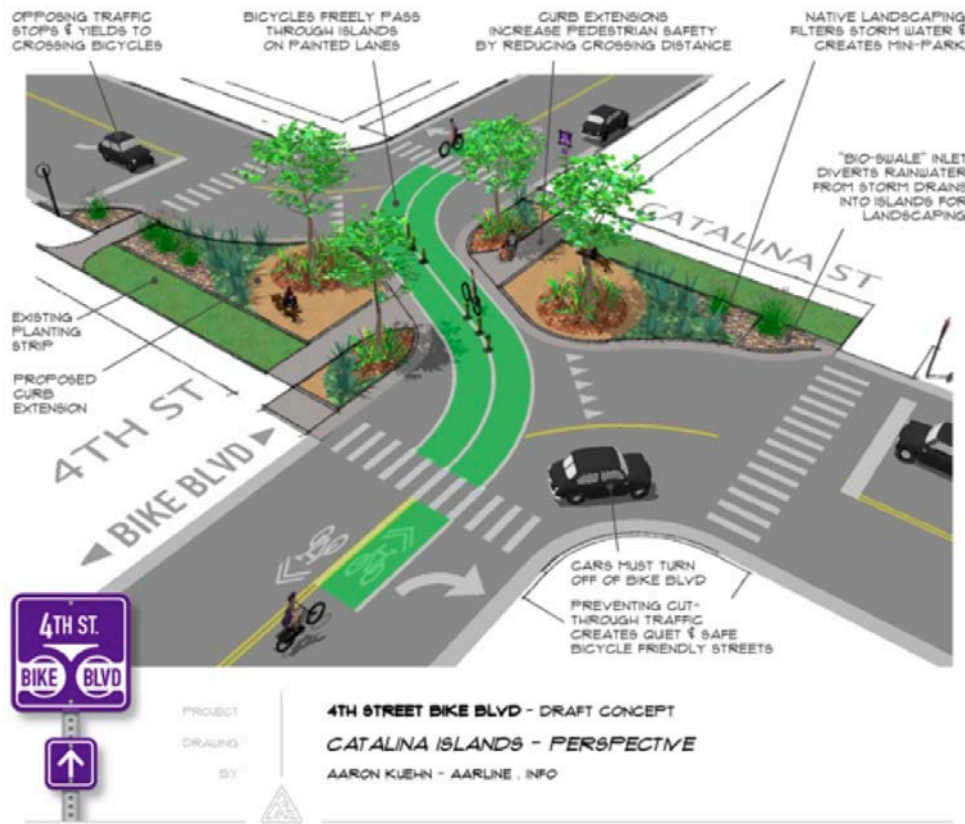


Figure 3.2: Separation of bicycles and motor vehicles according to traffic speed and volume.

Volume of motor vehicles (vehicles/ day)

12,000

11,000

10,000

9,000

8,000

7,000

6,000

5,000

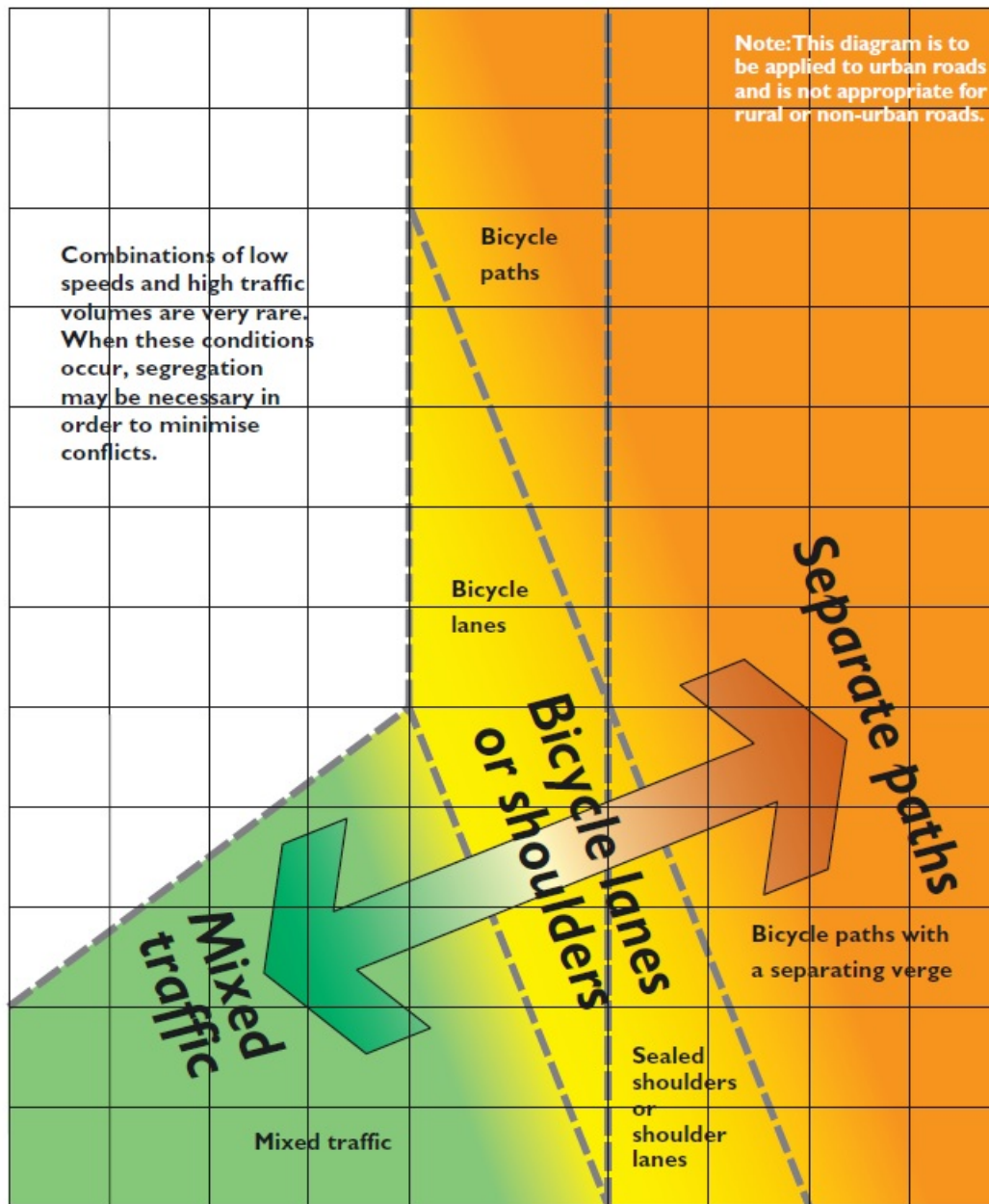
4,000

3,000

2,000

1,000

0

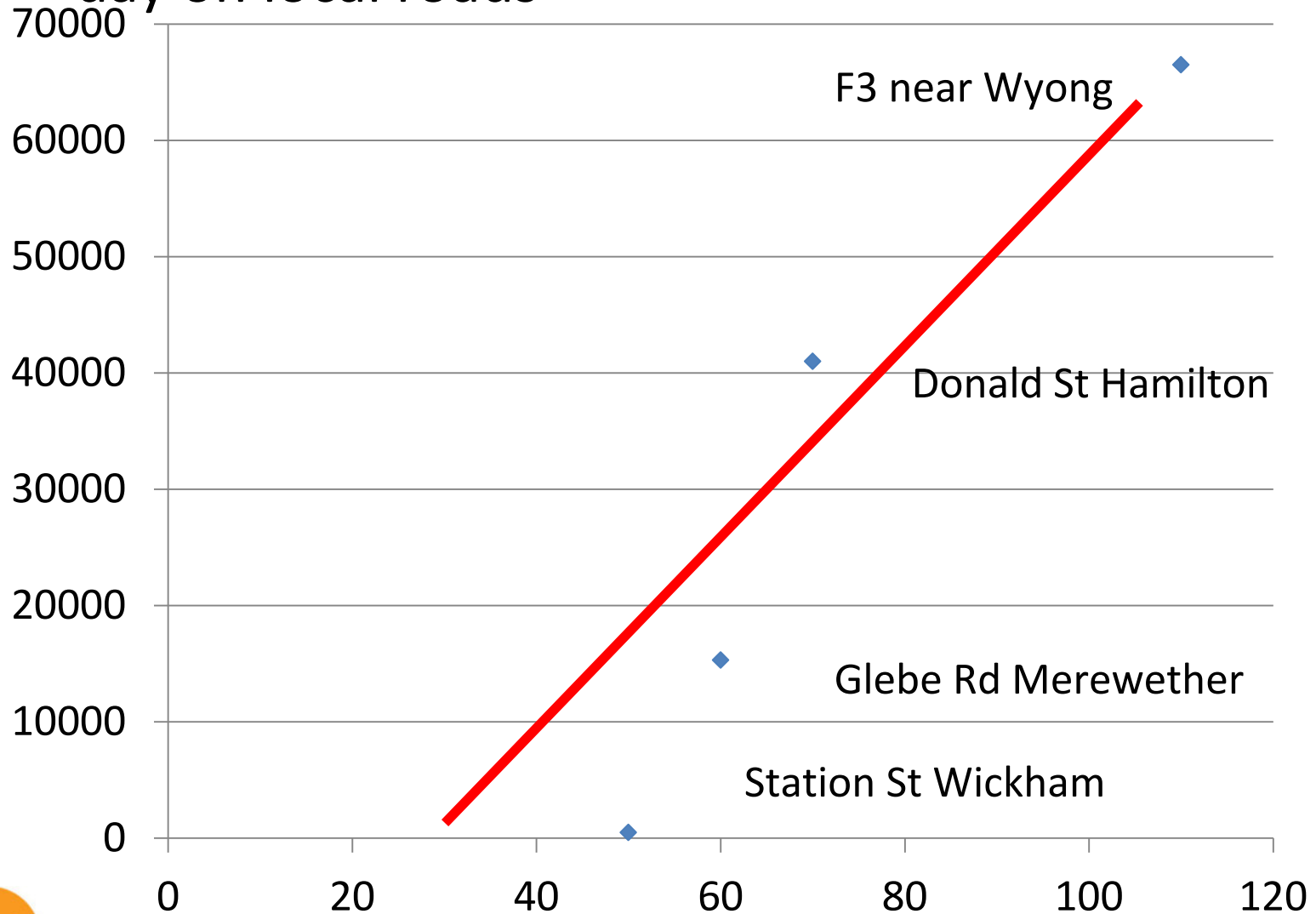


0 10 20 30 40 50 60 70 80 90 100

85th percentile speed in km/h

References: CROW10. 1993, DELG. 1999, DRD. 2000, SUSTRANS. 1997

Speed Km/hr and volume both directions per day on local roads









Stanmore



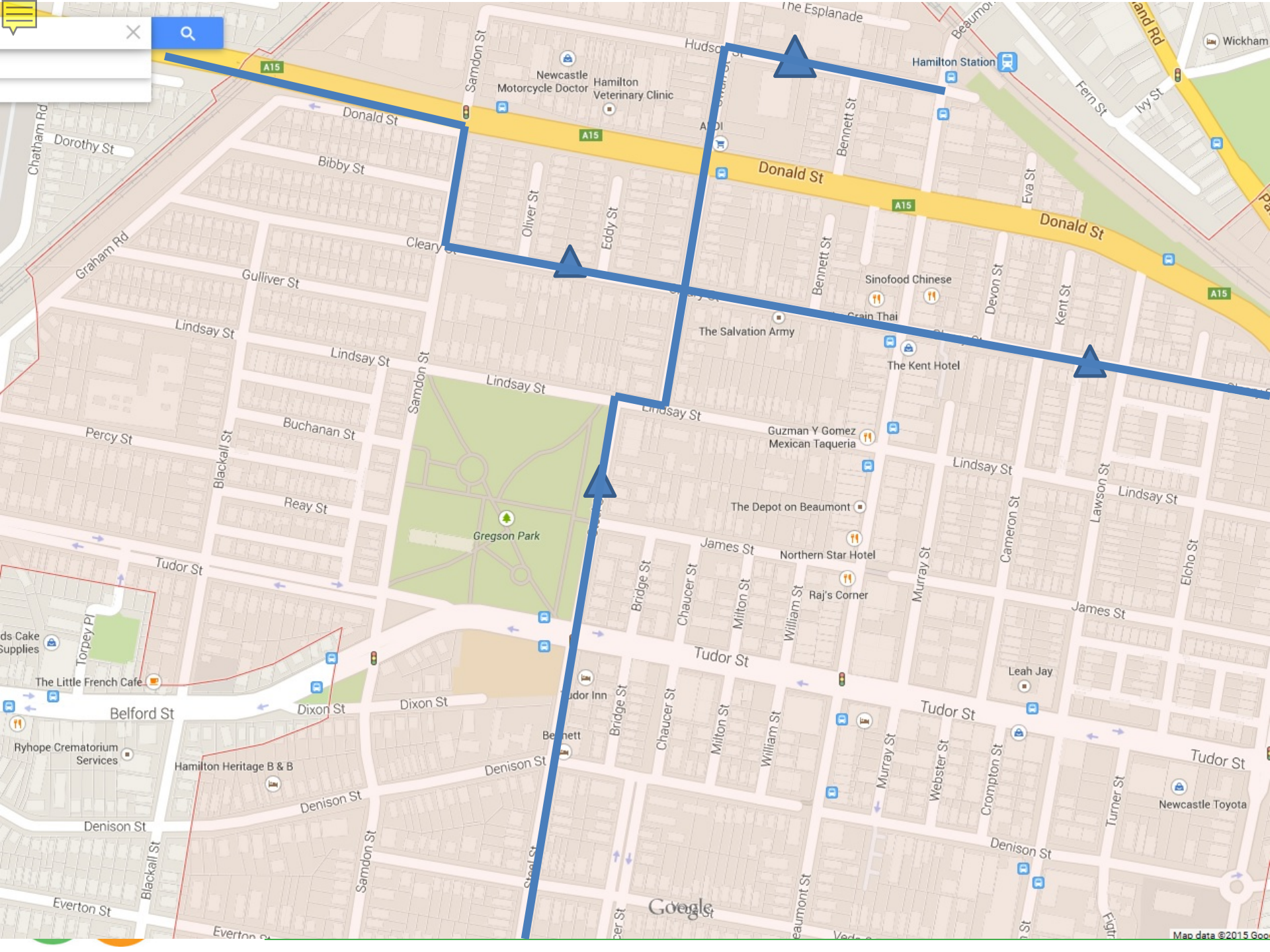




Bike Boulevards

- Create a safe cycling environment on roads still shared with cars.
- Open up road space to multiple community uses.
- There is a first mover advantage.
- Require substantial community engagement.





Research opportunities

- Measuring uptake
- Measuring the health benefits
- Measuring network safety performance
- Smart signage and wayfinding
- Action research- designing the kid friendly bike boulevard suburban retrofit.



Utilisation. Does completing a cycleway segment increase bicycle use?

- Pavement bike detectors
- Primary School bike counts
- Visual counts
- NSW Household travel survey
- Census data



Health benefits

- Does extra cycling add to or replace other physical activity?
- Are the people starting to cycle those who were sedentary, or those already active?
- Will the community prevalence of obesity reduce, or at least stop rising?



Network Safety

- Intensive monitoring of bicycle safety, through hospital emergency departments.
- Web based self report system for bike crashes, near misses, and hazards.
- Analysis and feedback to design standards and local government.



Signage, wayfinding, promotion



Destination and distance



Choose a route:



Fastest route



Balanced route



Quietest route

Quietest route option

If you decide to follow the suggested journey below please take extra care on unfamiliar sections; proceed at your own risk (route quality cannot be guaranteed).

Turn-by-turn directions below

Give feedback on route problems

Journey time: 24 minutes

Distance: 4 miles

Calories: 100 kcal [?]

 CO₂ avoided: 1.2 kg [?]

Quietness: Quite quiet

Route has very busy sections

Traffic lights: 2

Walking: 1% distance, 3% time

Fly in Google Earth [?]

View on larger map in GPSies

GPS device export (GPX) [?]

Elevation profile:



Who we are...

- Working collaboratively improves capacity





Questions....?



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