

Big Data Transport Planning for Swansea

Ben George

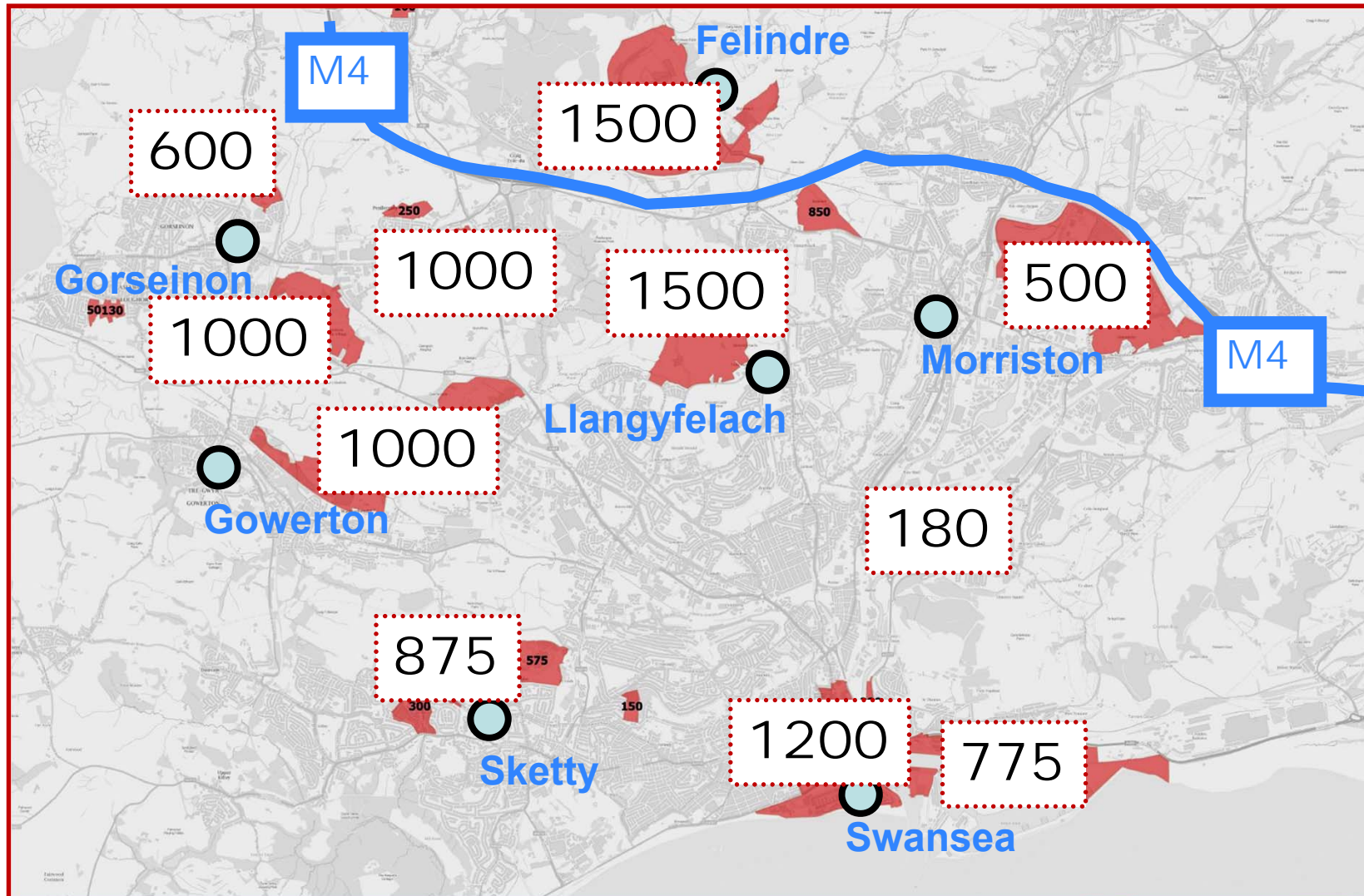
City & County of Swansea

ARUP



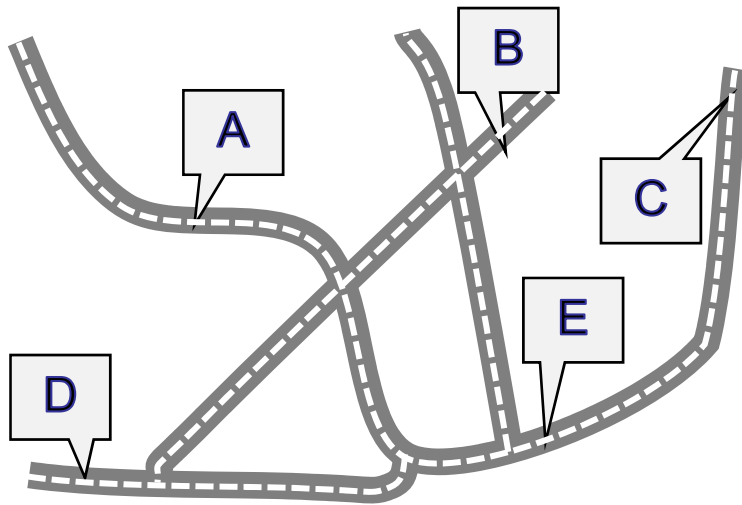
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Swansea Council

LDP DEVELOPMENT



COMPONENTS OF THE SSTM

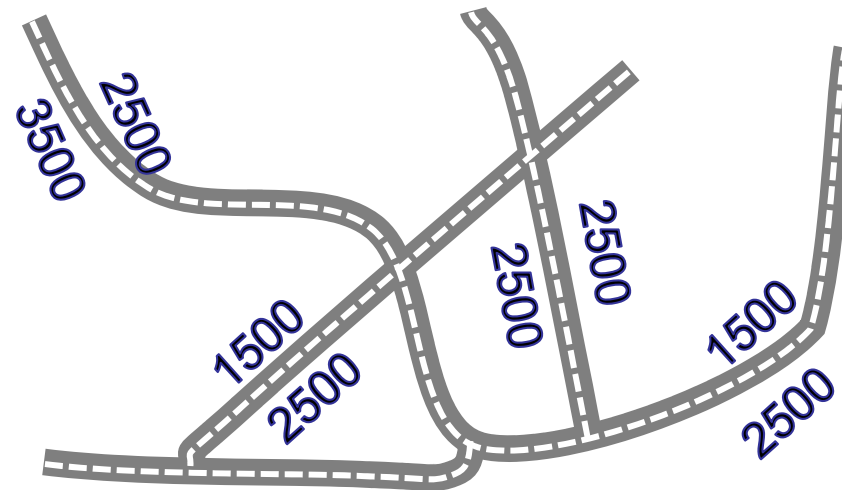
I. ROAD NETWORK



2. TRIP MATRIX

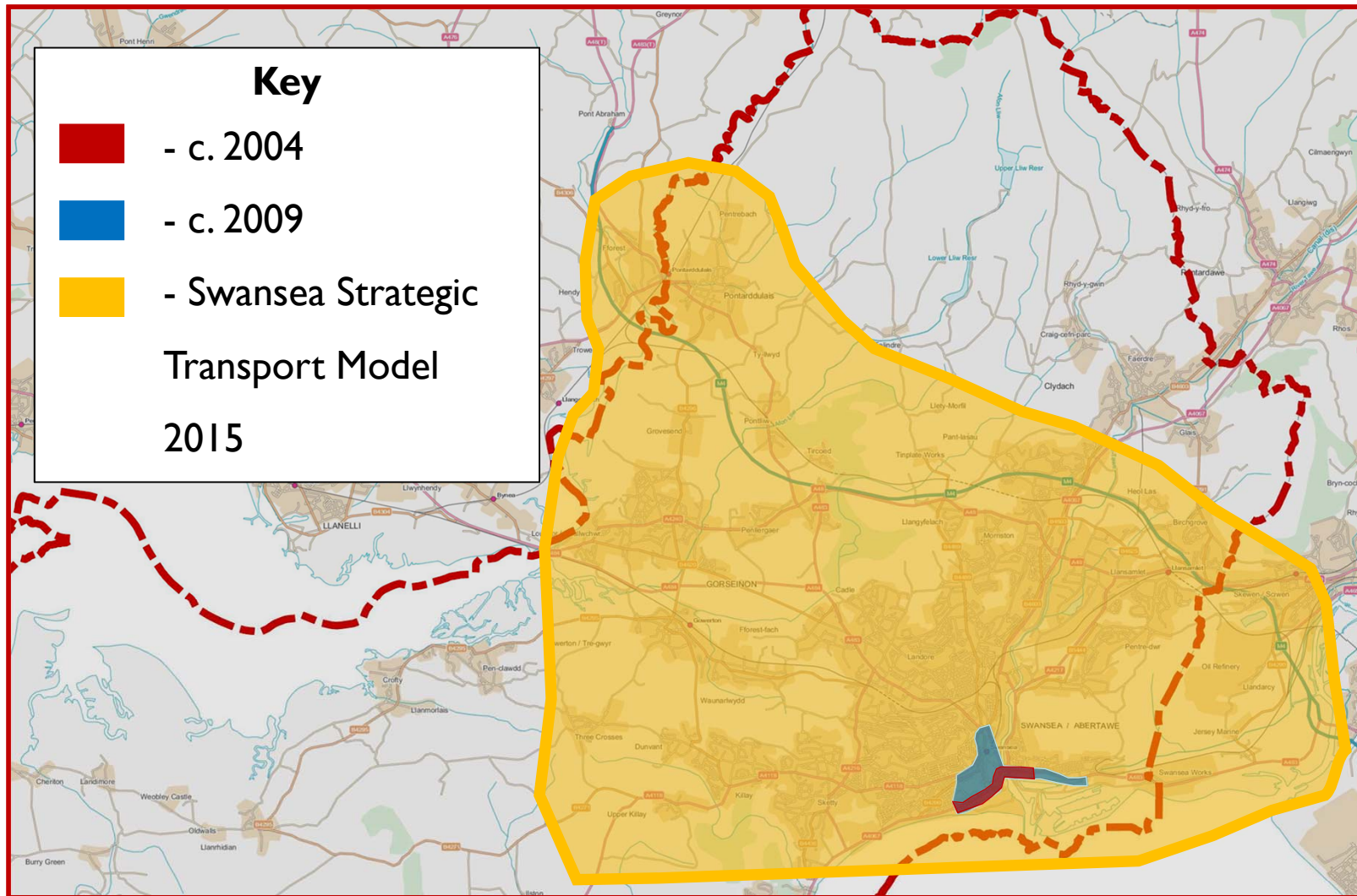
A	B	C	D	E
B	1000	2000	3000	4000
C	2000	2000	3000	4000
D	1000	4000	3000	2000
E	5000	2000	3000	1000

3. ROAD NETWORK + TRIP MATRIX = FLOWS



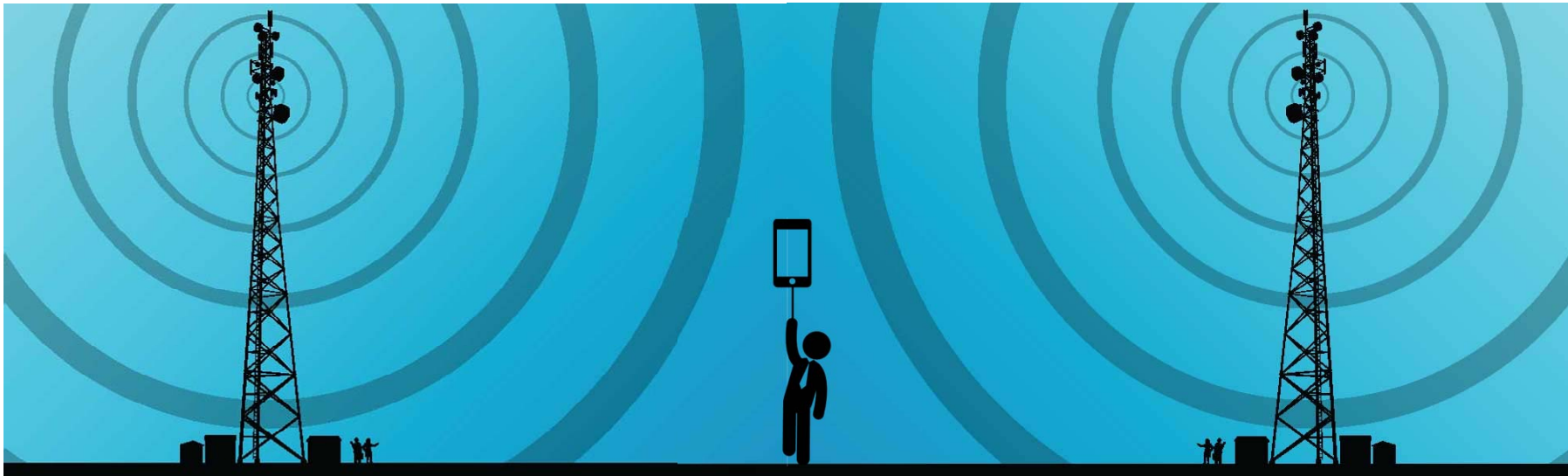
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MODEL PROGRESSION

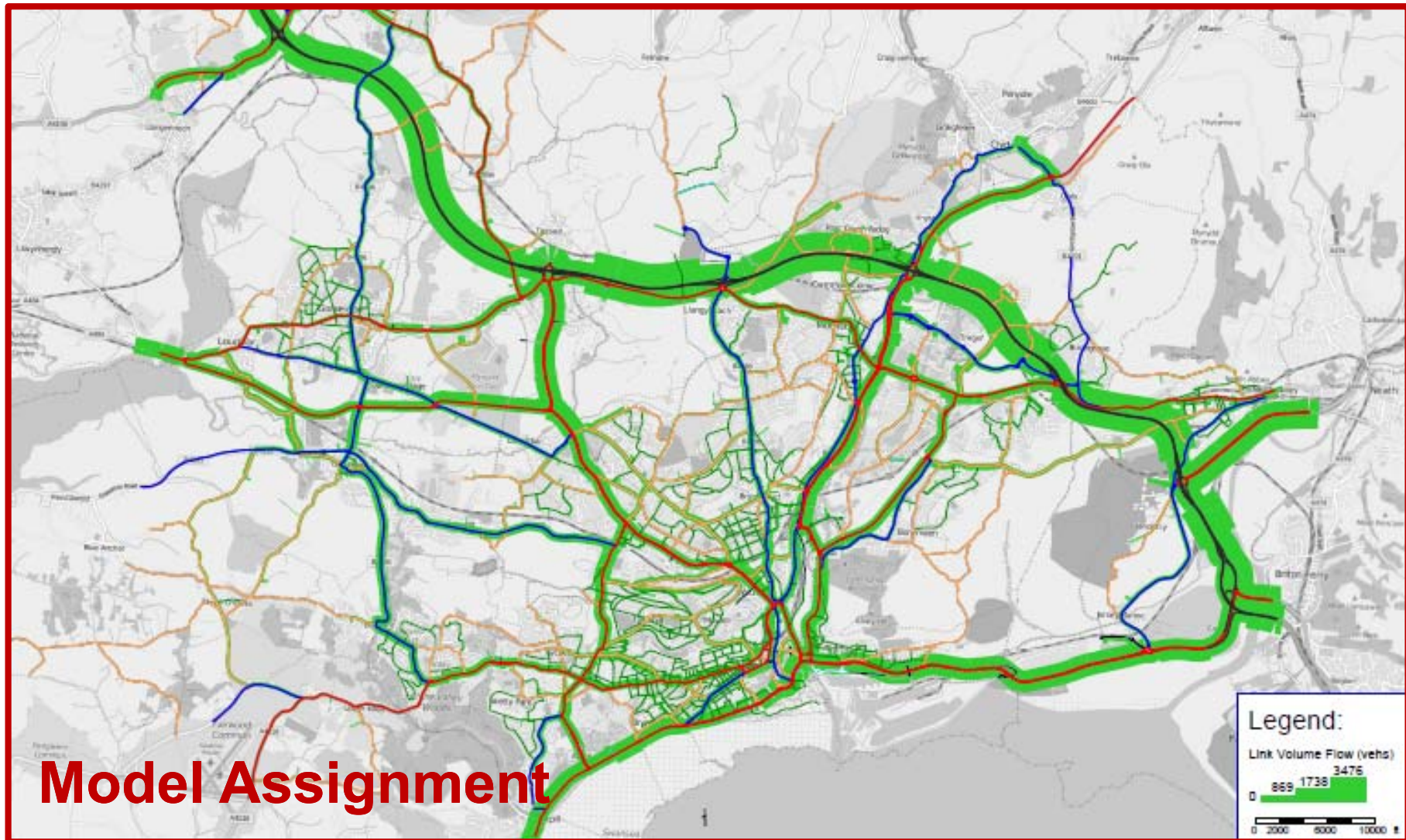


RECORDING MOVEMENTS FROM MOBILE PHONE DATA

- Records movement from cell tower to cell tower
- Phone continuously connected to a network to provide service
- Each phone given unique random identifier

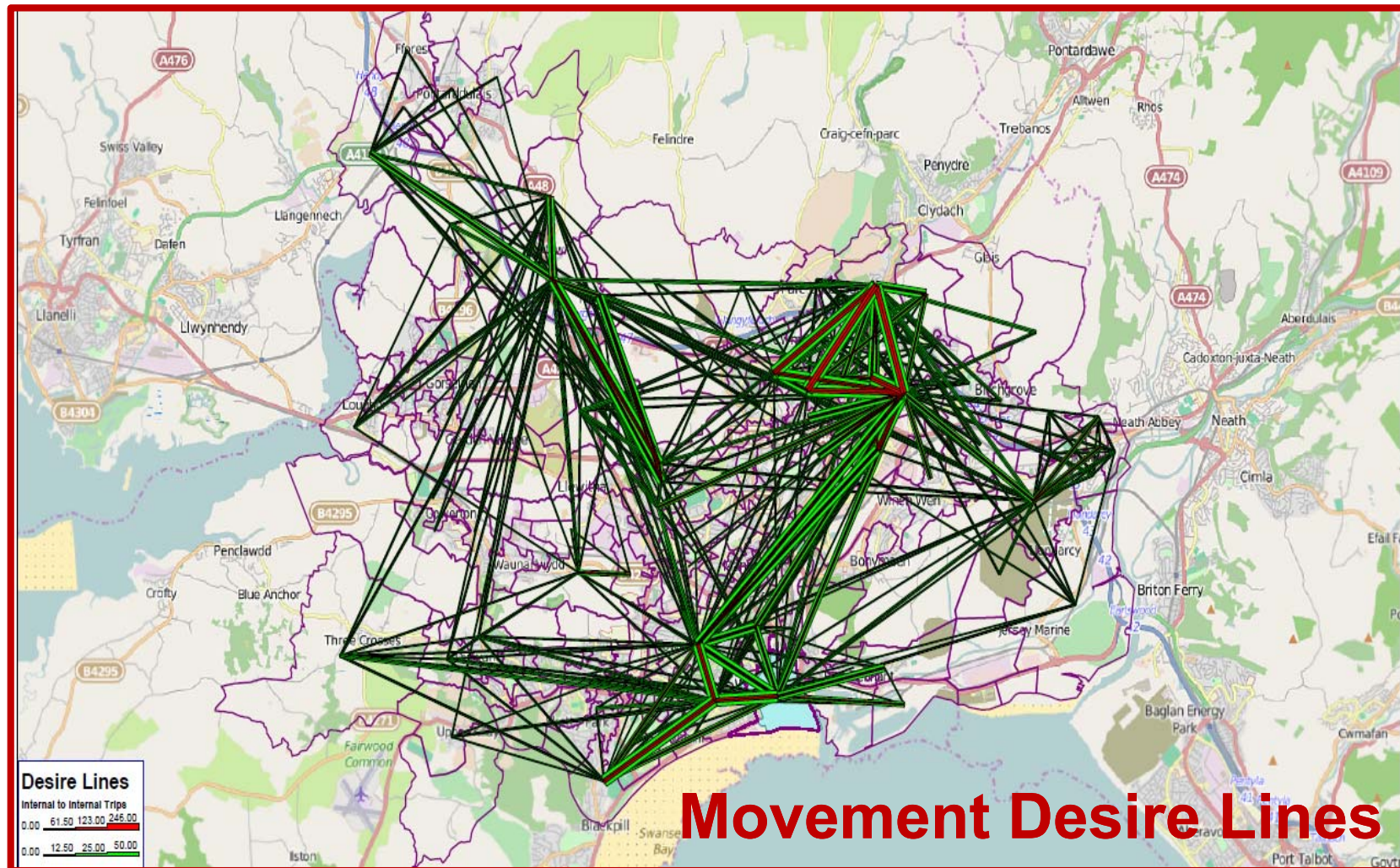


MODEL OUTPUTS



Swansea Council

DATA OUTPUTS



TESTED SCENARIOS

Road Network

No Change

Committed road
improvements only

Do Minimum

Various road and public
transport improvements

Do Something

+

+

+

Matrix of Movements

2016 present-day

2025 Committed Development
and normal growth

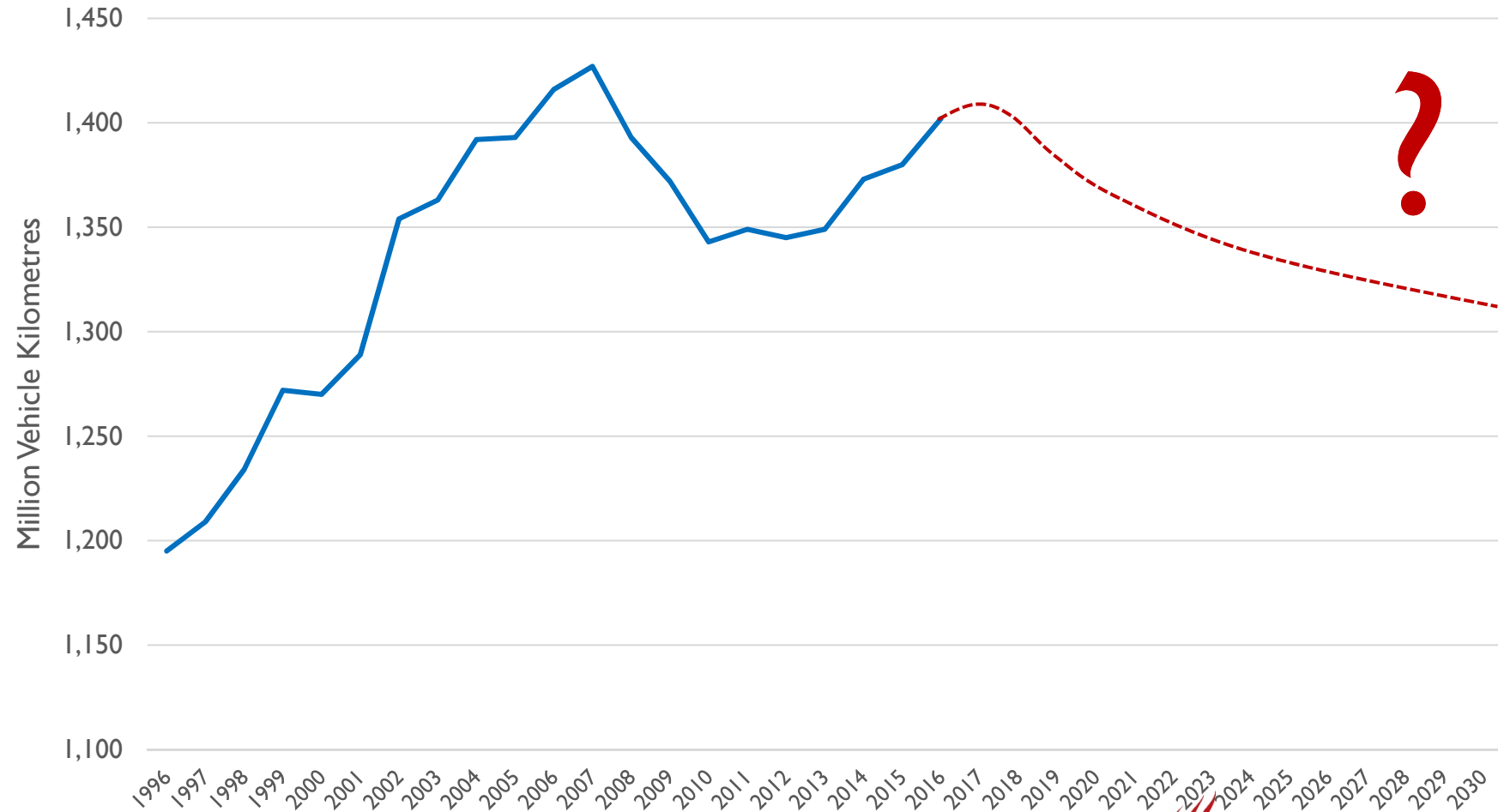
+18% approx.

LDP Development Growth

+27% approx.

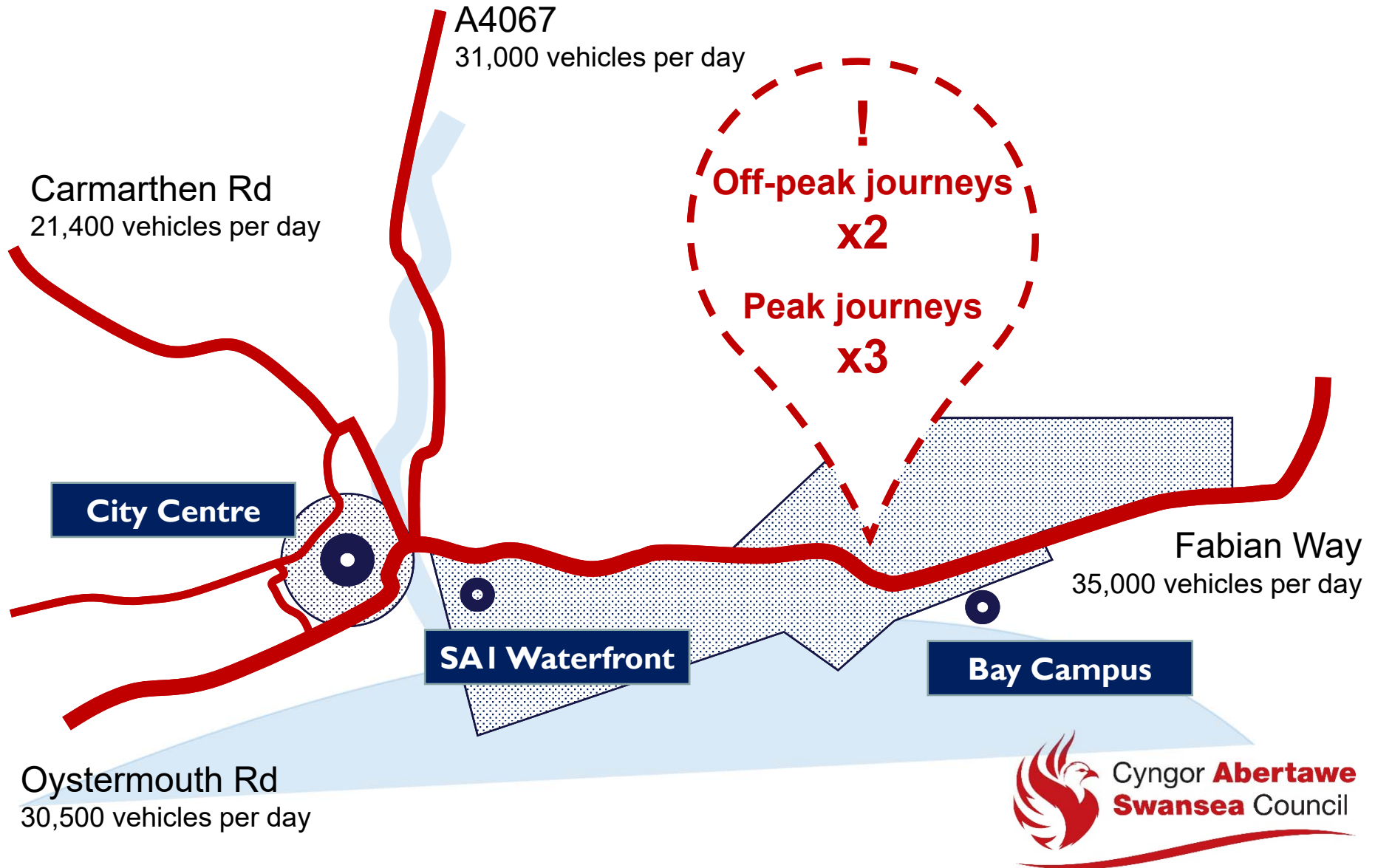
TRANSPORT POLICY TENSIONS

City & County of Swansea Road Traffic Volume 1993 - 2016

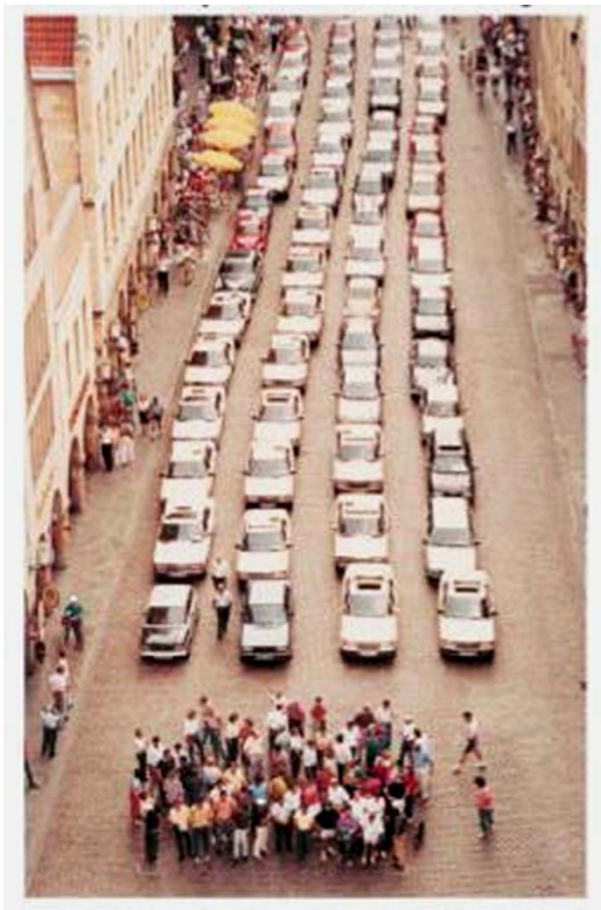


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TRANSPORT STRATEGY



TANGIBLE BENEFITS



Car

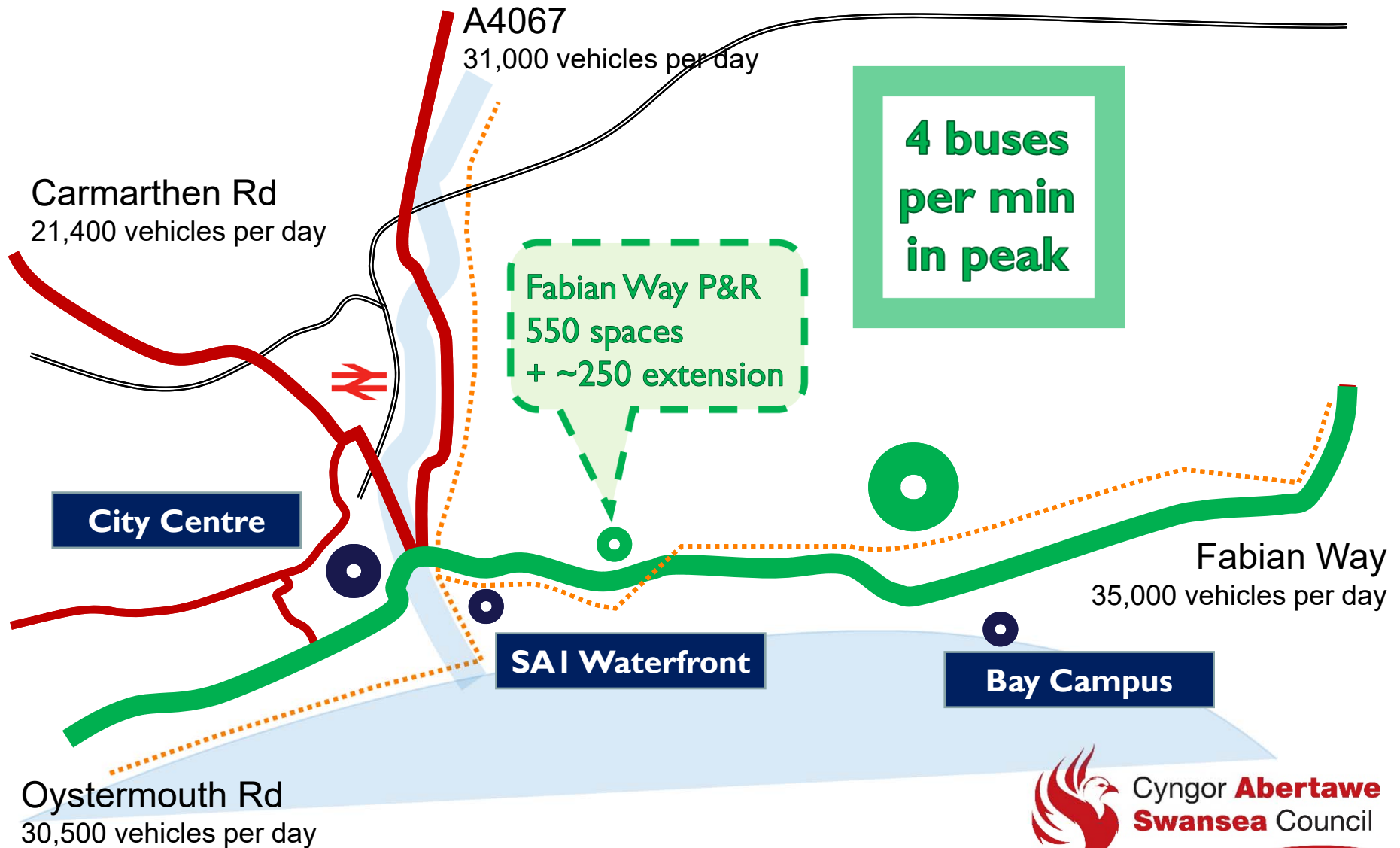


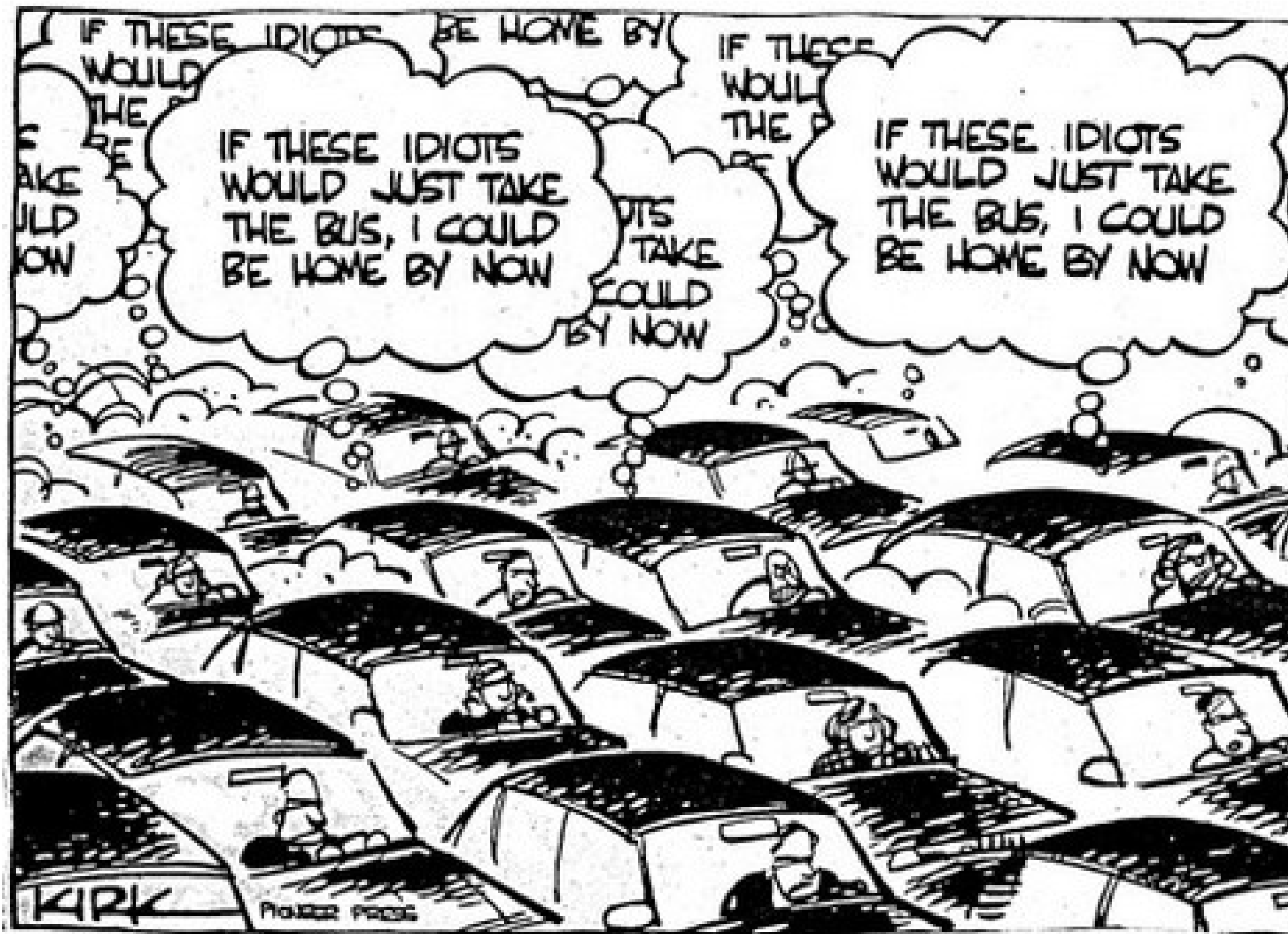
Bus



Bicycle

SAI TRANSPORT STRATEGY







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