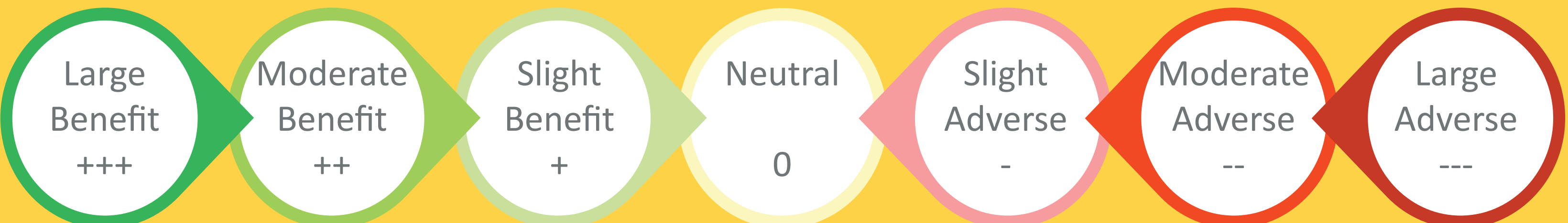


IMPACTS, BENEFITS & VALUE FOR MONEY

What are the Impacts of Each Option?

The study has assessed the options against the positive and negative impacts on people, culture, the environment and the economy.

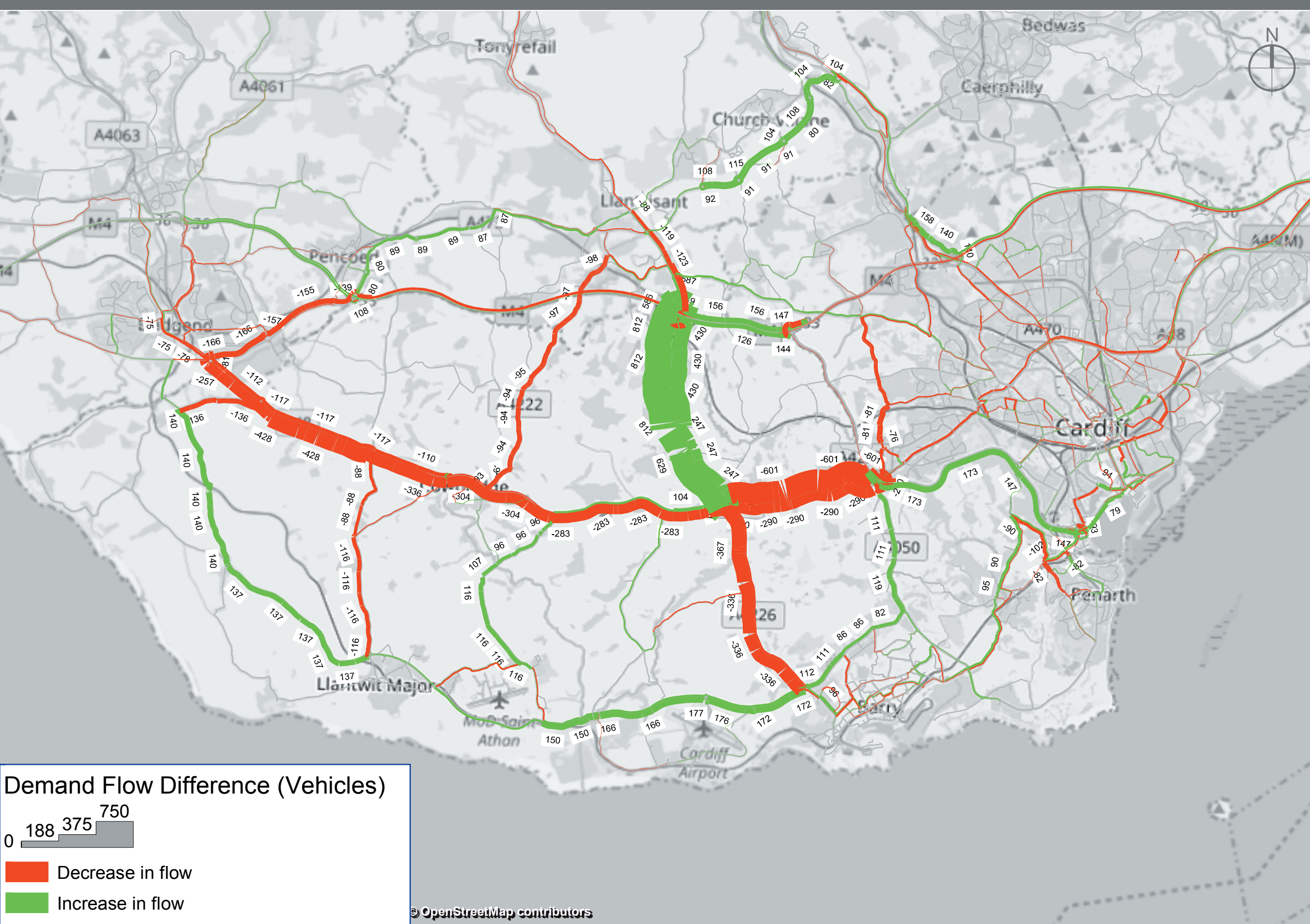


| Impact | Highway Option 1 (Eastern Alignment) | Highway Option 2 (Western Alignment) | Parkway Station |
|---------------------------|---|---|-------------------|
| Social | | | |
| Physical Activity | + | + | + |
| Journey Quality | +++ | +++ | ++ |
| Accidents | ++ | ++ | + |
| Security | + | + | ++ |
| Access to Employment | ++ | ++ | ++ |
| Access to Services | ++ | ++ | + |
| Affordability | 0 | 0 | + |
| Severance | + | + | Not yet assessed. |
| Option and Non-Use Values | + | + | +++ |
| Cultural | | | |
| Cultural Facilities | + | + | Not yet assessed. |
| Welsh Language | 0 | 0 | 0 |
| Environmental | | | |
| Noise | - | - | Not yet assessed. |
| Air Quality | - | - | Not yet assessed. |
| Greenhouse Gasses | + | + | + |
| Landscape | --- | --- | Not yet assessed. |
| Townscape | 0 | 0 | Not yet assessed. |
| Historic Environment | - | - | Not yet assessed. |
| Bio-Diversity | --- | --- | Not yet assessed. |
| Water Environment | --- | - | Not yet assessed. |
| Residential Amenity | - | --- | Not yet assessed. |
| Economic | | | |
| Journey Time Changes | +++ | +++ | + |
| Journey Time Reliability | ++ | ++ | + |
| Changes | | | |
| Transport Costs | + | + | + |
| Accidents | ++ | ++ | + |
| Wider Economic Impacts | ++ | ++ | ++ |
| Land and Property | --- | --- | Not yet assessed. |
| Capital Costs | --- | --- | --- |
| Revenue Costs | --- | - | - |

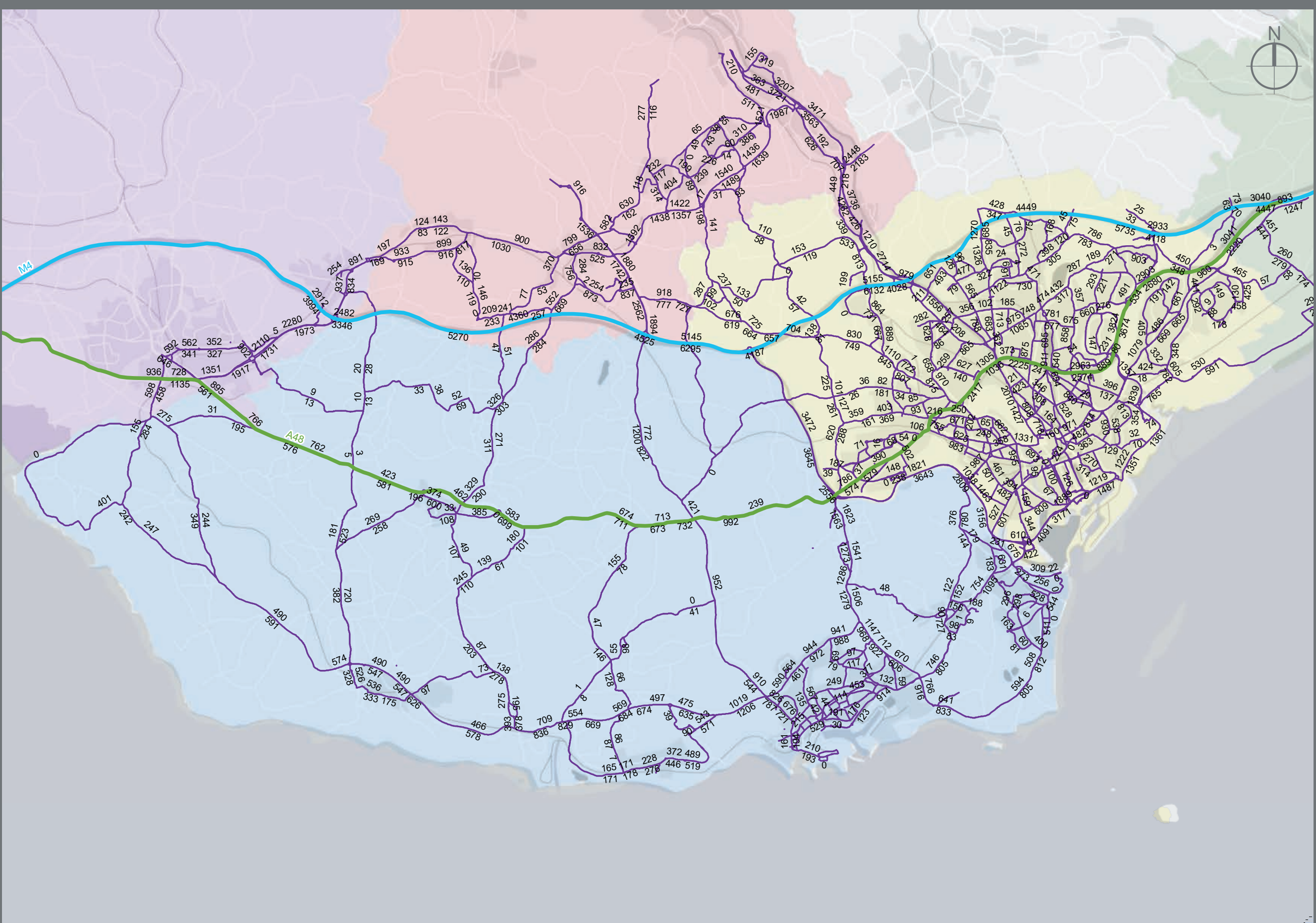
The highway route options have similar impacts. The Eastern route has greater potential impacts on the floodplain and on residential amenity. The Western route impacts on more properties. The parkway station has potentially strong social and economic benefits.

Economic Benefits

We have used the South East Wales Transport Model (SEWTM) to calculate scheme benefits of a new route (either east or west). The forecast traffic for the PM peak (highest peak) in 2036 presents considerable changes across the road network. We would expect benefits to increase with refinements to modelling in a Stage Three study removing the stagger in the A48 Sycamore Cross junction, improving M4 J34 and considering wider economic impacts.



Forecast change in traffic flows for the PM Peak 2036



Forecast traffic flows for the PM peak 2036

Value for Money

Model flows, journey times and user benefits for the base and future year has enabled Arcadis to undertake a Cost Benefit Analysis and to examine the value for money of each option.

On the basis of greatest economic advantage, the western alignment route is the best performing option, although it is recognised that economic performance is only one of the elements which must be taken into account in decision making.

| Highway Route Option | Benefit to Cost Ratio (BCR) | Net Present Value (NPV) |
|----------------------|-----------------------------|-------------------------|
| Western Alignment | 3.7 | £111m |
| Eastern Alignment | 2.7 | £96m |

Improving Strategic Transport Encompassing Corridors for the M4 Junction 34 to A48 Including the Pendoylan Corridor

WelTAG Stage Two: Outline Business Case

