

Roadspace Allocation for Better Streets

Tim Cuthbert

IPENZ Transport Group Conference



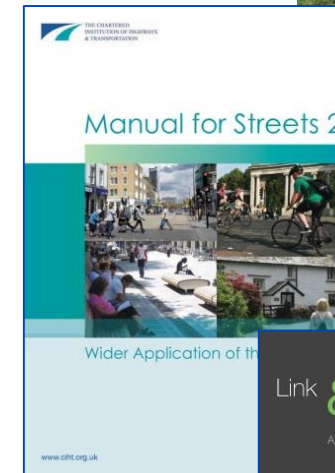
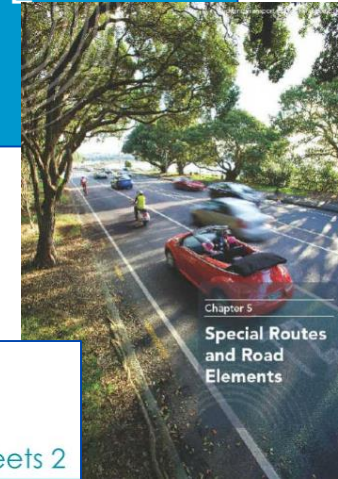
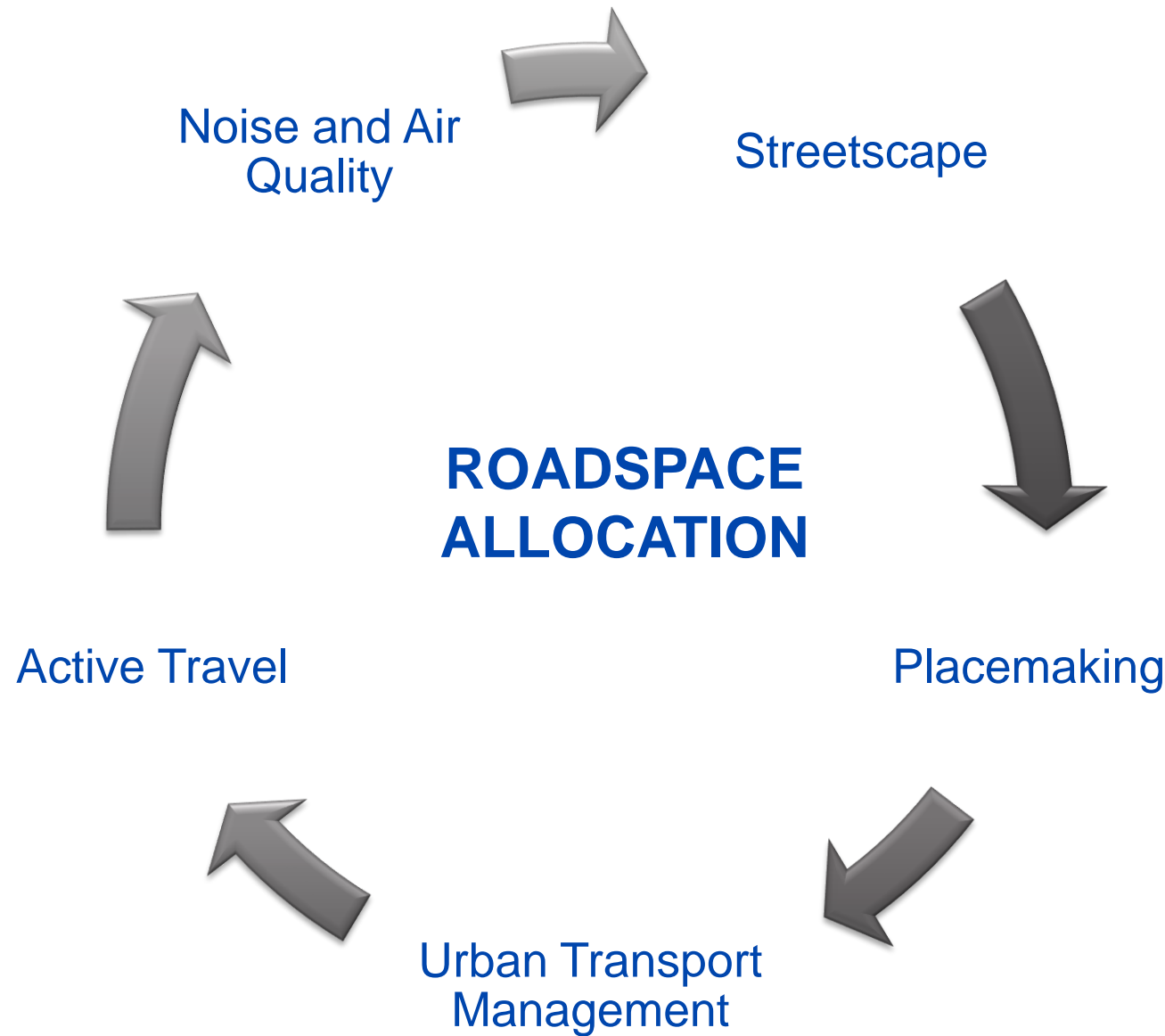
March 2016

ROADSPACE ALLOCATION – THE CONUNDRUM



- Not a new problem
- No easy solutions
- Better approaches

SOME INTERDEPENDENCIES...



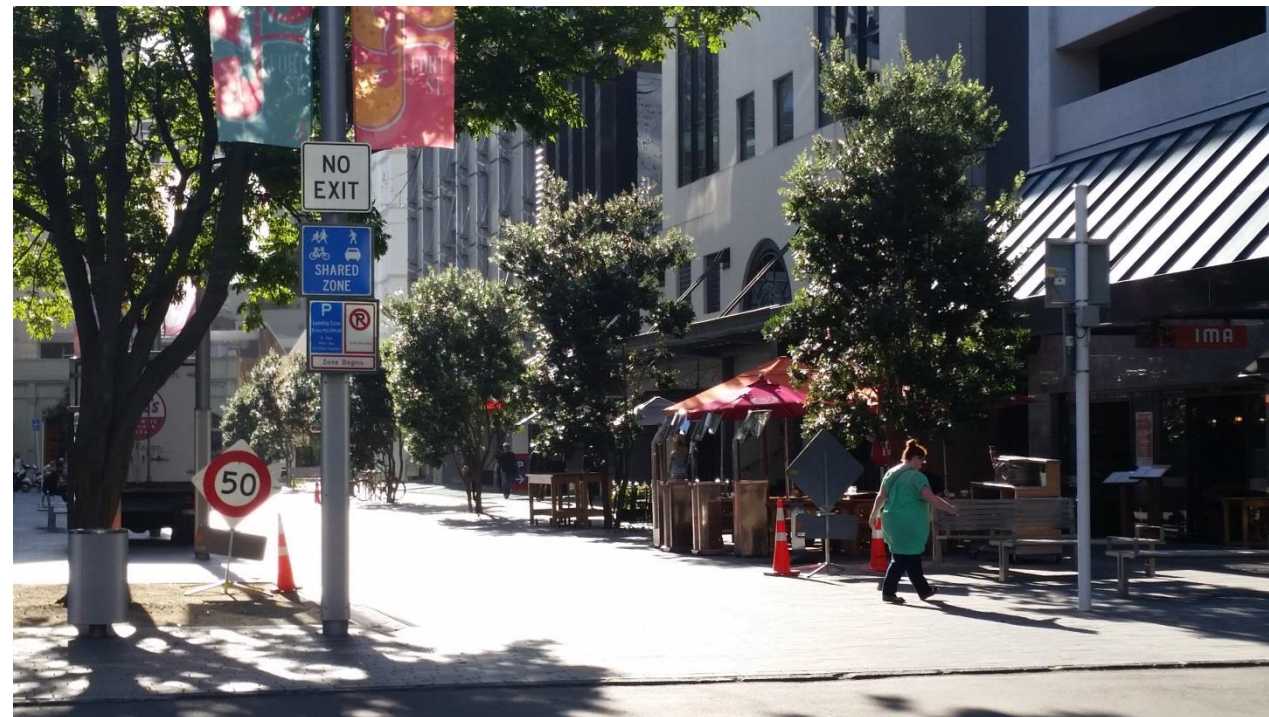
GUIDING PRINCIPALS

- Streets are places for people
- Successful streets are inclusive and provide for the competing requirements of their users
- A robust design approach is required to balance the movement of people and goods with high quality urban realm
- Streets account for a significant proportion of public realm
- It is right to raise the ambition for our streets but a collaborative, design-led approach is fundamental



APPROACH TYPICALLY DEPENDS ON:

- Complexity
- Location
- Resources
- Timescale
- Local Politics



STREET ANALYSIS/ CLASSIFICATION

→ Define Link and Place Functions

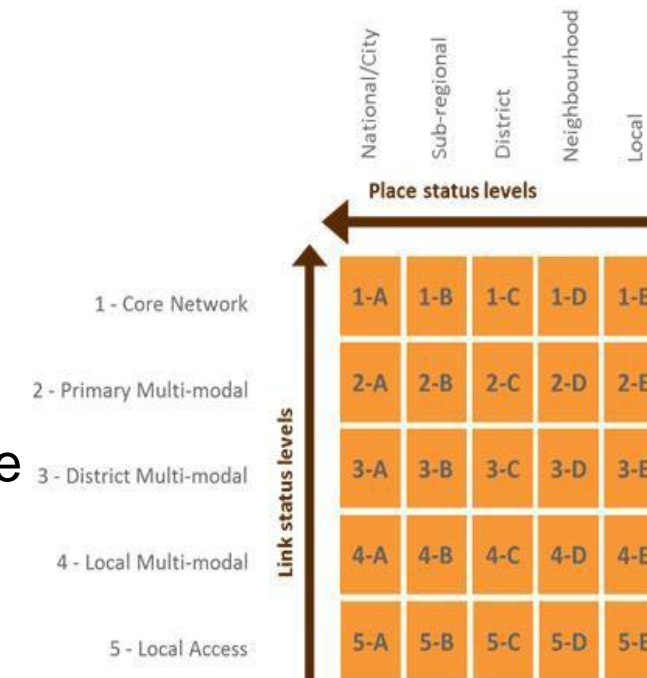
- LINK – designed for users to pass through quickly and conveniently
- PLACE – a destination in its own right where people spend time

→ Undertake Performance Review

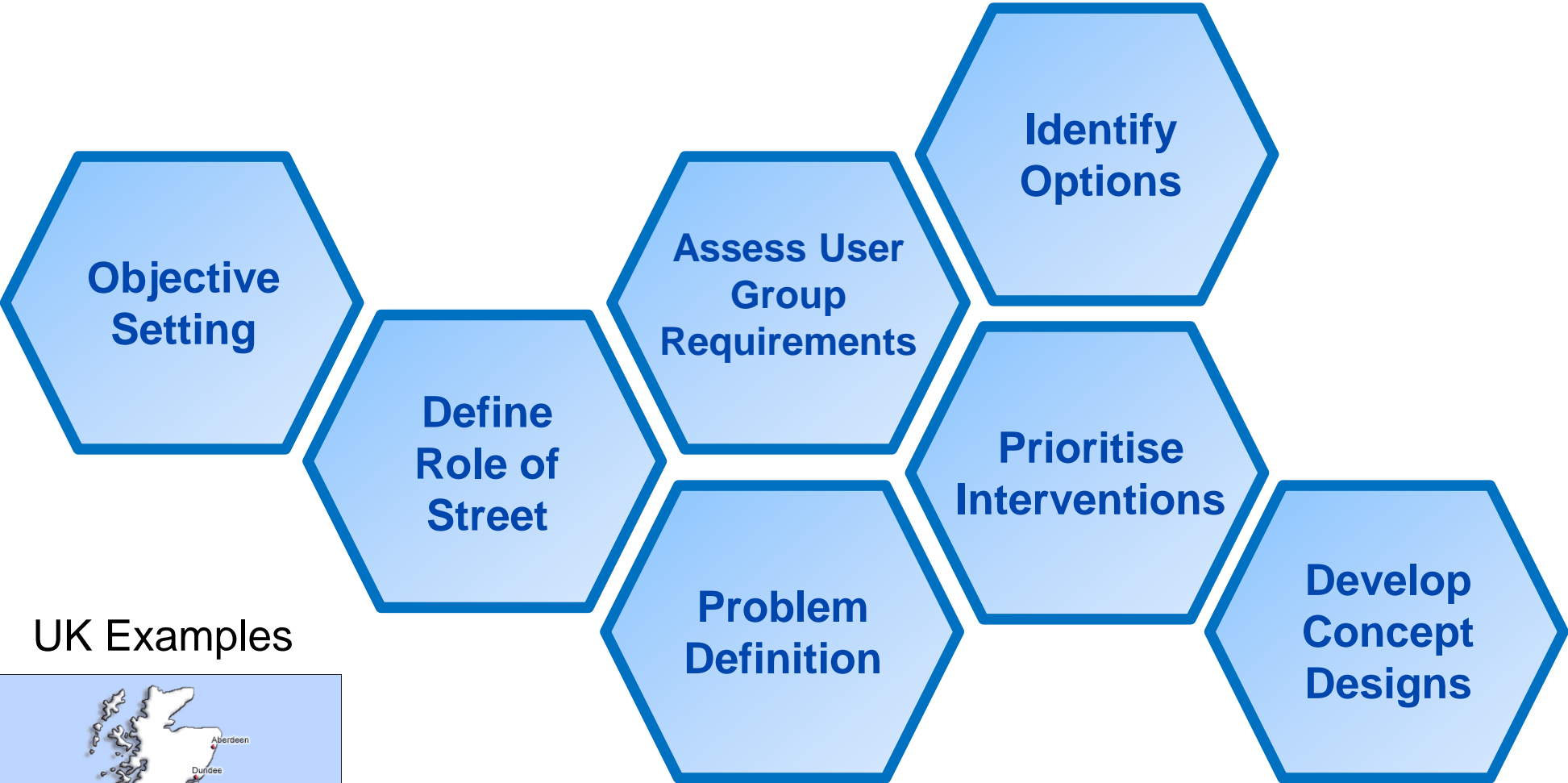
- Assess the performance of a street against set determinants eg
 - Bus service delays
 - Quality of public realm
 - Parking provision

→ Assess Level of Service Needs for Road Users

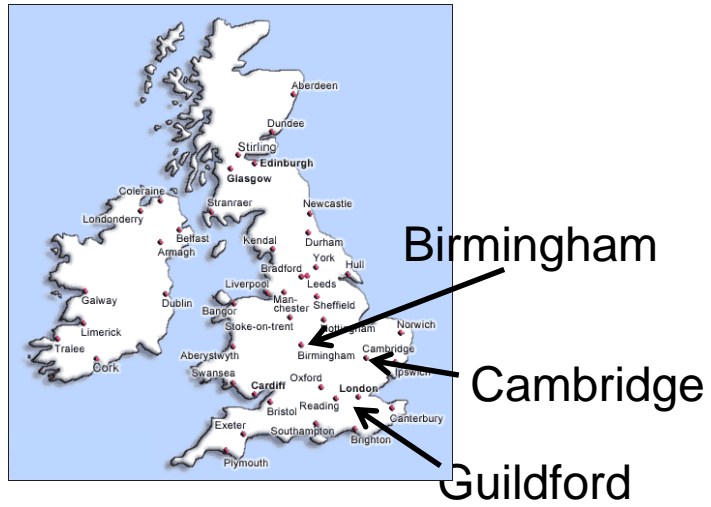
- provides a means of quantifying / grading either existing conditions or the outputs of schemes



PROJECTS IN THE MAKING - COMMON THEMES



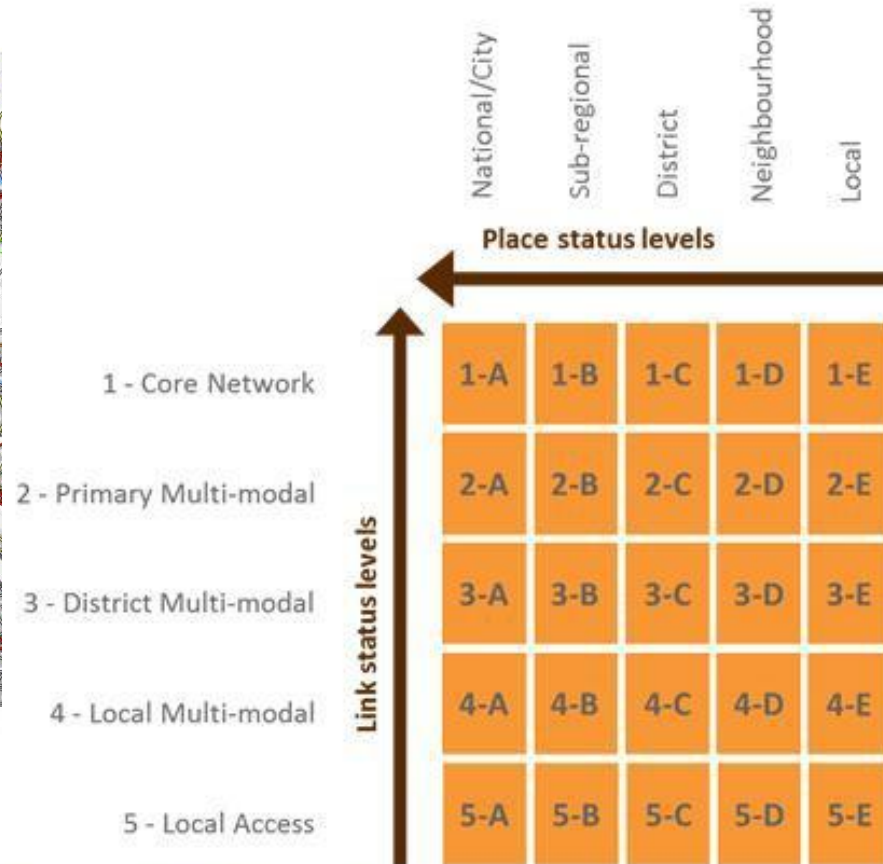
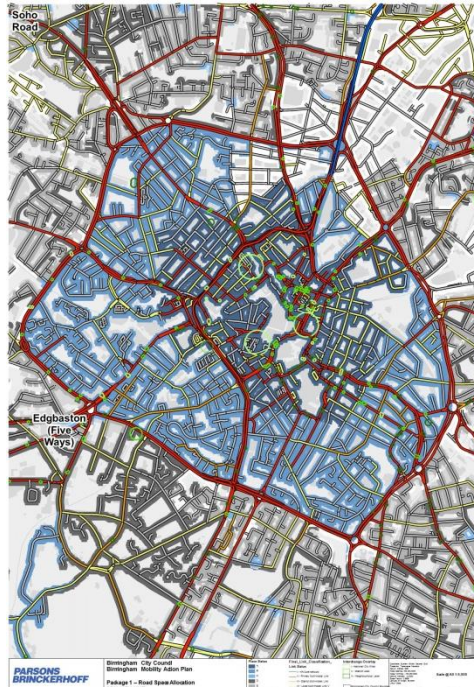
UK Examples



Stakeholder Engagement Throughout !

BIRMINGHAM (LINK & PLACE APPROACH)

Step 1- Street Classification



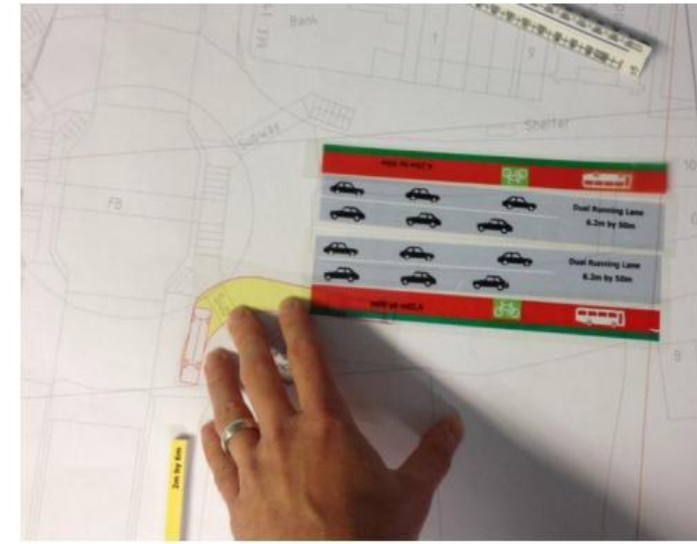
BIRMINGHAM

Step 2 – Assessing User Requirements

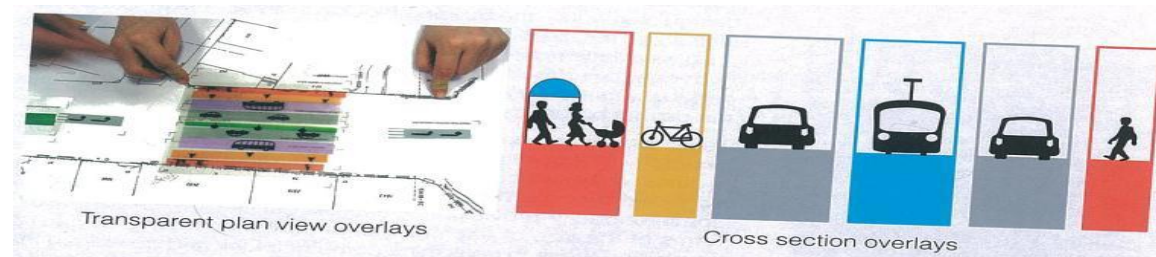
- **Street activities**
- **Street requirements**
- **Applicable design standards**

Step 3 – Meeting User Requirements

- **Set out all the user requirements for the selected street section**
- **Develop concept design solutions**



Collaborative exercise with project partners



BIRMINGHAM

CASE STUDY A - District Centre (highway dominated)

Current Link/Place Status – 2B(Primary Multimodal Link and Sub-Regional Place);
Example – Selly Oak Local Centre



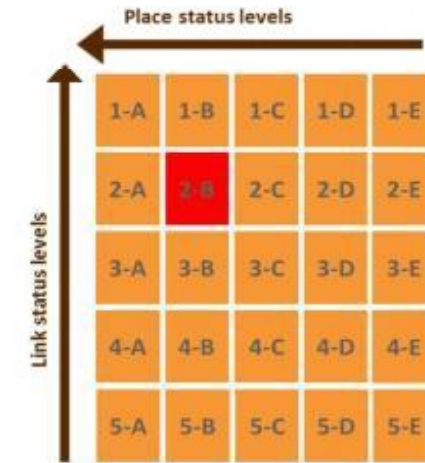
Highway dominated environment, wide carriageway with 4-traffic lanes. Barriers to pedestrian movement.



Poor urban realm for place classification Under-utilised footway potential for greater place emphasis.



Character building at the heart of the centre – a natural place focus, adjacent to a key desire



Step 1 - Street Classification



Step 2 – Local Conditions/Context

Place Requirements	Pedestrian/ Cyclist Crossing Facilities	√	Link Requirements	Sprint Route	√
	Private Accesses - residential, commercial	√		CityLink Route	
	On-street Parking - Residents			Other Bus Route	√
	On-street Parking - Retail			Strategic Freight Route	
	On-street Parking - Services			Weight restrictions	
	Disabled Bay			Height restrictions	
	EVCP Bay			HGV restrictions	
	On-street delivery/servicing	√		Green Travel District	√
	PT Interchange site	√		On-street Cycle route	√
	Mature Trees, Valuable Green Spaces			Shared use cycle path	
Critical Street Furniture - signals boxes etc		Strategic Traffic Route			
Schools/ Colleges/ Universities	√	20 mph zone/restrictions			
Hospitals/ Surgeries/ GPs		Mature Trees, valuable green spaces			
Street Markets / Event Spaces	√				

BIRMINGHAM

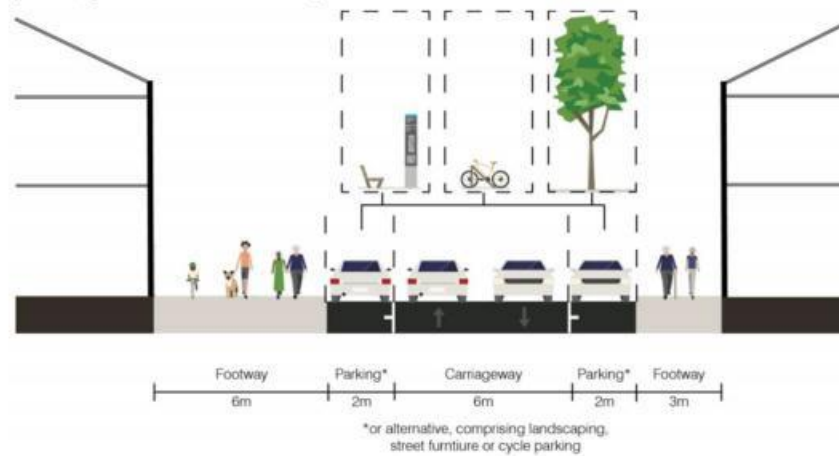
CASE STUDY A - District Centre (highway dominated)

Current Link/Place Status – 2B(Primary Multimodal Link and Sub-Regional Place);
Example – Selly Oak Local Centre

Cross Section A – Bus-only Section with SPRINT super-stop



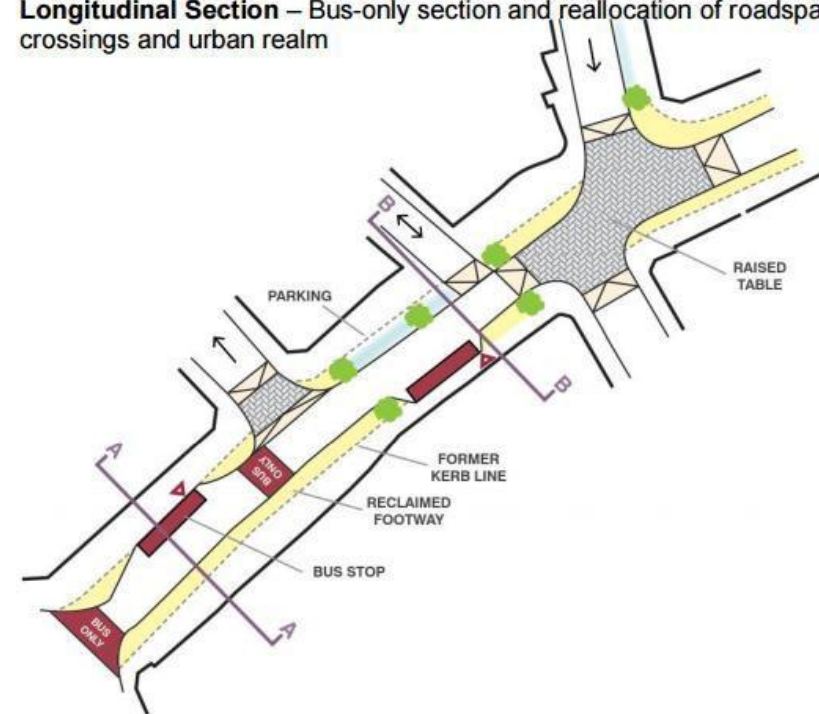
Cross Section B – Traffic lanes replaced with short-stay parking, cycle parking or urban realm improvements



	Place status levels				
	1-A	1-B	1-C	1-D	1-E
Link status levels	2-A	2-B	2-C	2-D	2-E
	3-A	3-B	3-C	3-D	3-E
	4-A	4-B	4-C	4-D	4-E
	5-A	5-B	5-C	5-D	5-E

Step 3 – Meeting the User Requirements

Longitudinal Section – Bus-only section and reallocation of roadscape crossings and urban realm



BIRMINGHAM – NEXT STEPS

→ Policy Document:

- Sets out clearly and simply *why* space should be re-allocated (if at all); *when* it should be considered and *how* decisions will be made.
- Used to convey decisions to Members, public and stakeholders



→ Guidance Document:

- A technical document provided to scheme designers
- Used to convey how schemes must quantify their performance according to the policy
- Based around the concept of 'Level of Service'

GUILDFORD (EARLY CONCEPTS)

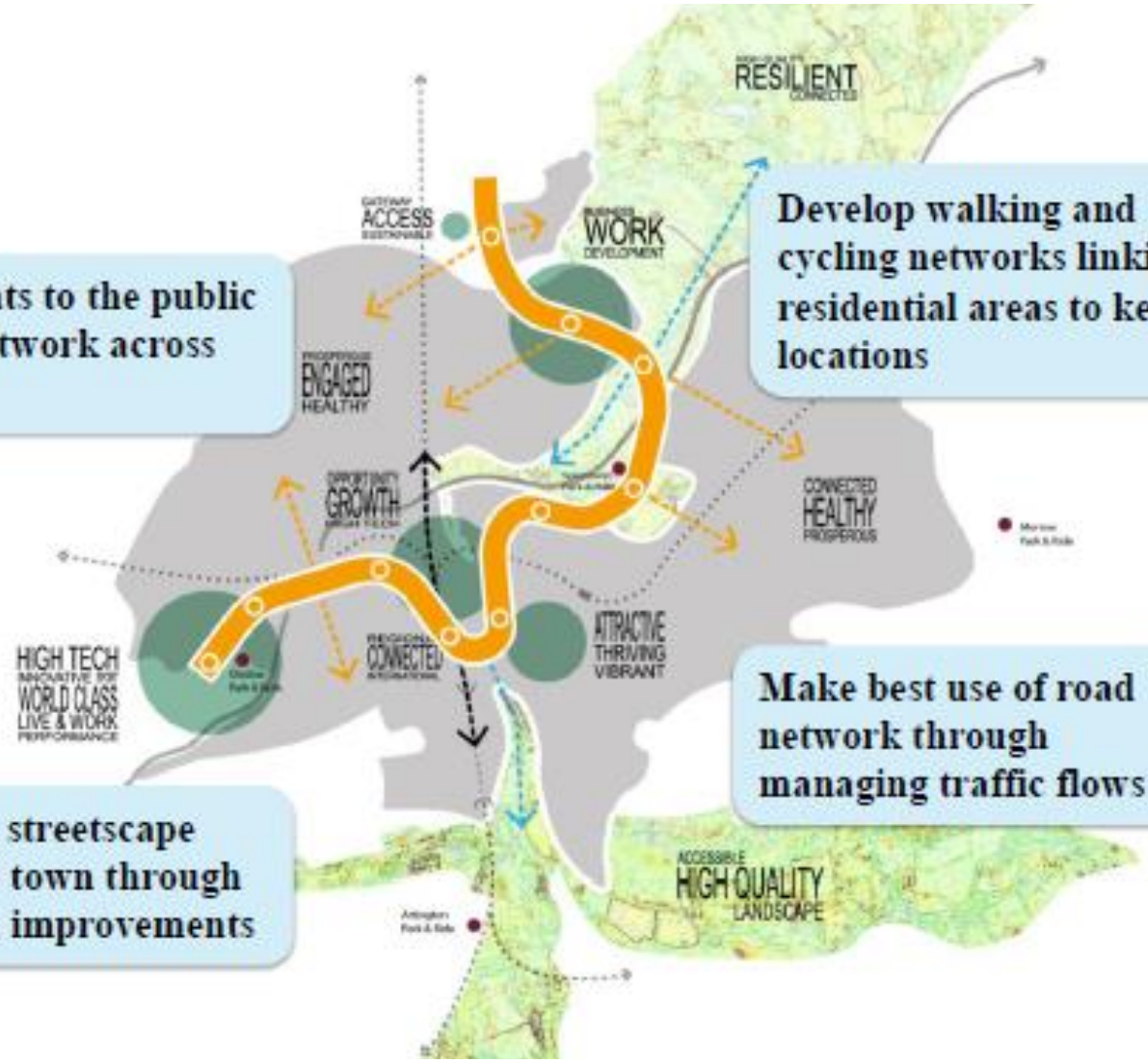


Improvements to the public transport network across the town

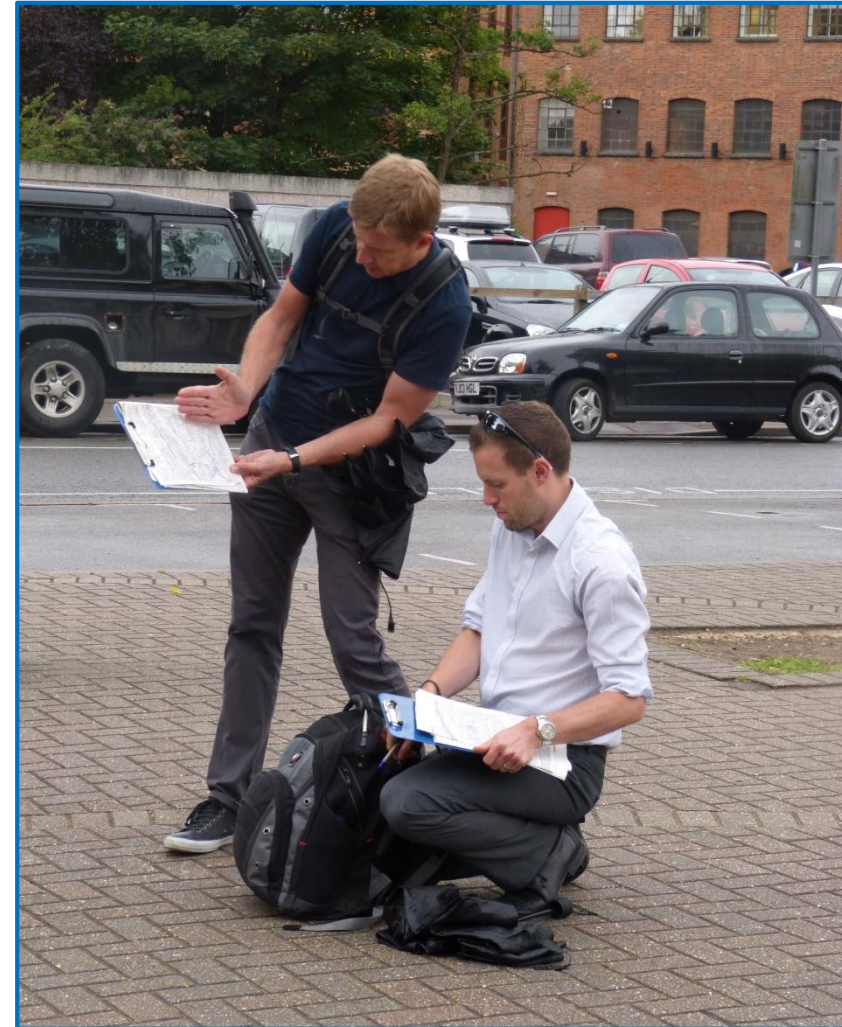
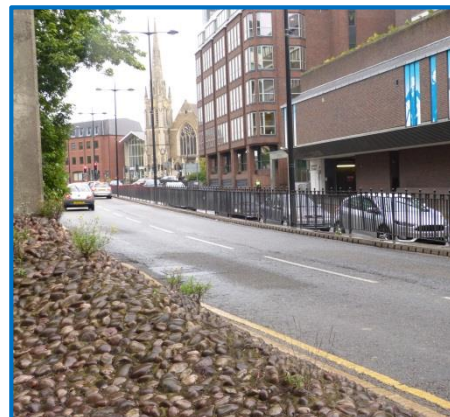
Develop walking and cycling networks linking residential areas to key locations

Make best use of road network through managing traffic flows

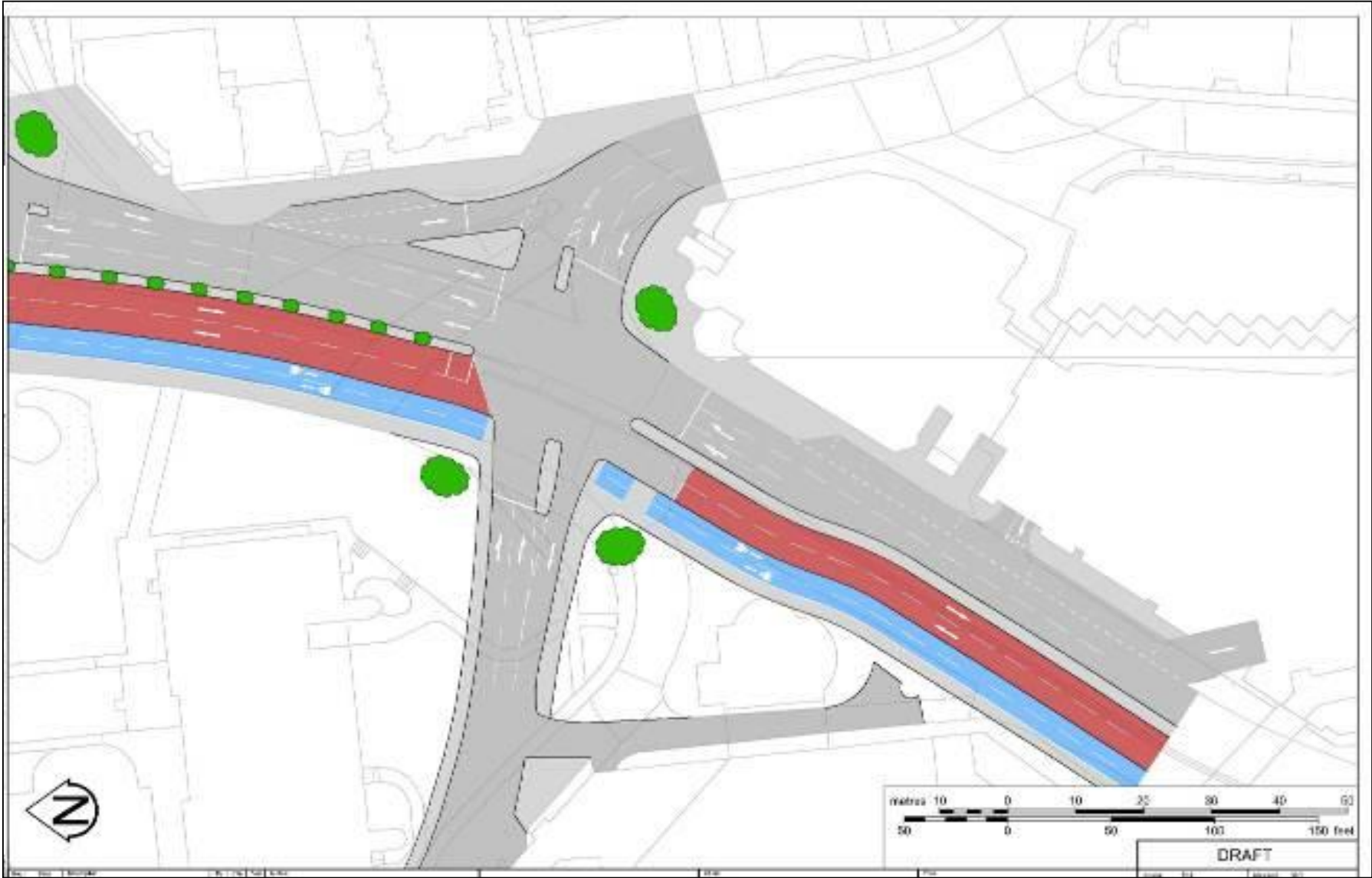
Enhance the streetscape design in the town through public realm improvements



GUILDFORD (IDEA GENERATION)



GUILDFORD (EMERGING IDEAS)



GUILDFORD NEXT STEPS

→ Key Stakeholder Engagement

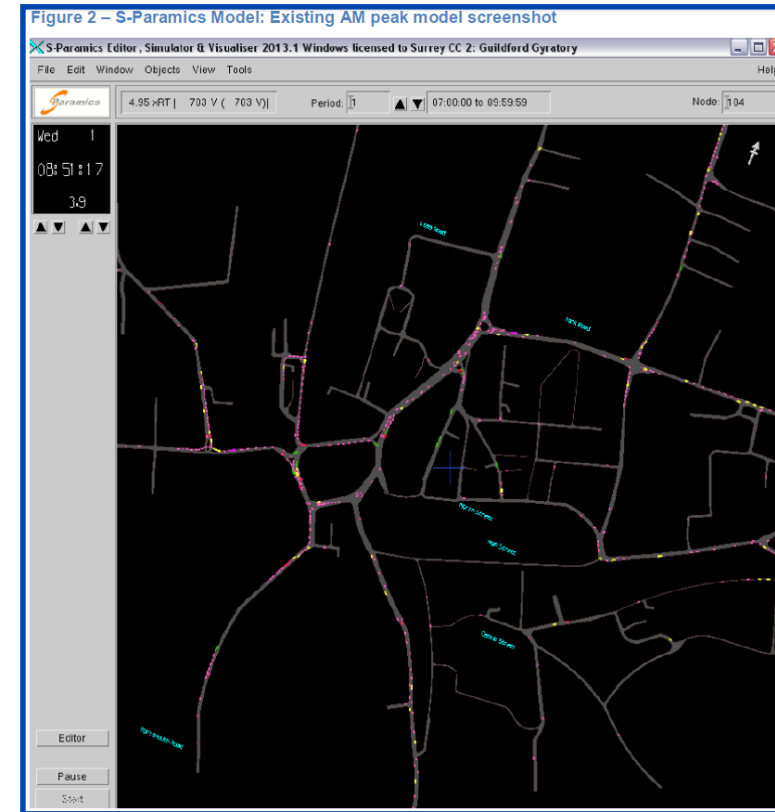
- Highway Authority
- Bus Operators
- Major Developers

→ Transport Modelling

- Strategic – County SINTRAM Model
- Town Centre Micro-simulation (Paramics)

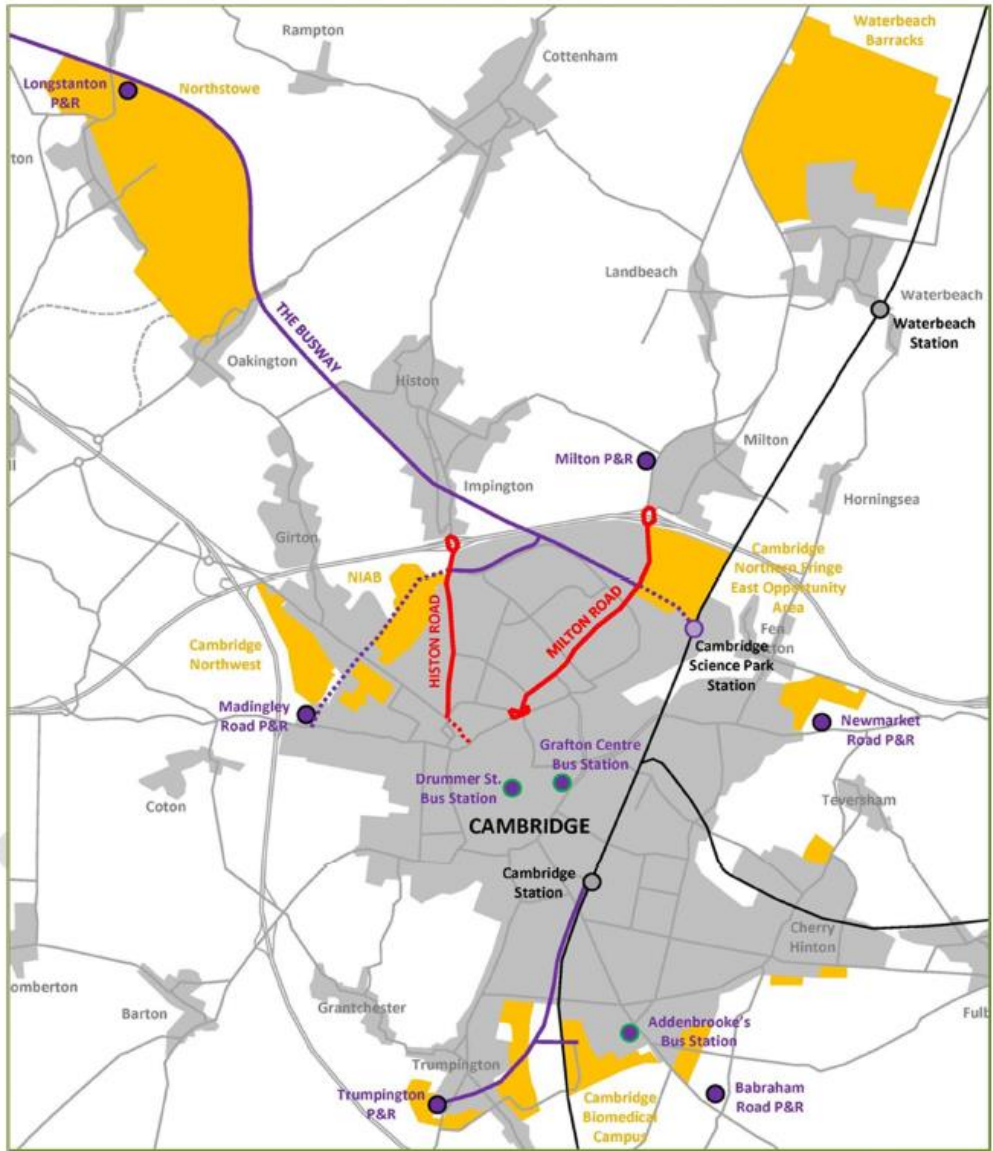
→ Preliminary Design

- Engineering Considerations
- Urban Design Input

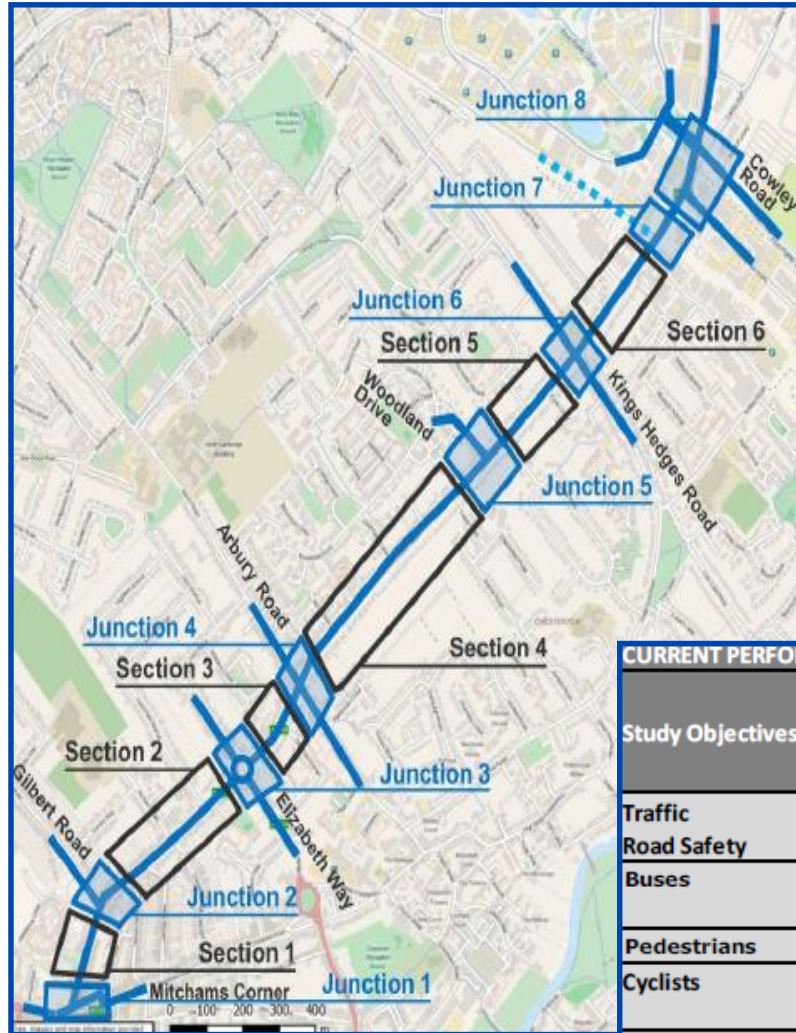


***KEEP HIGH QUALITY SUSTAINABLE TRANSPORT MODES HIGH
ON THE TRANSPORT PLANNING AGENDA IN THE WAKE OF
PRESSURE FOR MAJOR HIGHWAY SCHEMES!***

CAMBRIDGE (PERFORMANCE REVIEW APPROACH)



CAMBRIDGE (MILTON ROAD)



→ Performance Review - based on:

- quantitative analysis (e.g. collisions data)
- desktop review
- site observations
- stakeholder engagement.

CURRENT PERFORMANCE		Section 1	Junction 2	Section 2	Junction 3	Section 3	Junction 4	Section 4	Junction 5	Section 5	Junction 6	Section 6	Junction 7	Junction 8
Study Objectives														
Traffic	- Traffic delays	Red	Red	Yellow	Yellow	Red	Red	Yellow	Yellow	Yellow	Red	Yellow	Yellow	Red
Road Safety	- Road safety	Green	Red	Red	Red	Green	Red	Yellow	Yellow	Green	Yellow	Yellow	Yellow	Green
Buses	- Bus service delays	Red	Red	Red	Red	Red	Red	Yellow	Yellow	Yellow	Red	Yellow	Yellow	Red
Buses	- Bus stop provision/quality	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
Pedestrians	- Pedestrian crossing facilities	Green	Green	Yellow	Red	Yellow	Green	Yellow	Yellow	Yellow	Green	Yellow	Yellow	Yellow
Cyclists	- Cycle priority measures	Yellow	Yellow	Yellow	Yellow	Yellow	Red	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
Cyclists	- Cyclist crossing facilities	Yellow	Yellow	Green	Red	Yellow	Red	Green	Green	Green	Green	Green	Green	Yellow
Public Realm	- Quality of the public realm	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
Public Realm	- Provision of trees/planting	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
Parking	- Parking provision	Green	Red	Green	Green	Green	Red	Red	Red	Red	Red	Red	Red	Red
Parking	- Servicing provision	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow

CAMBRIDGE OUTLINE DESIGN PROCESS

→ Hierarchy of user needs:

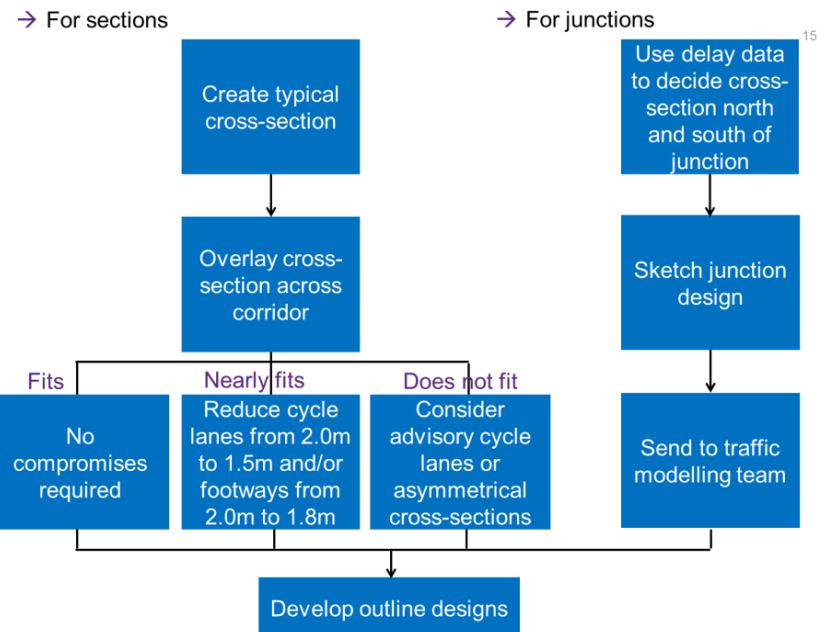
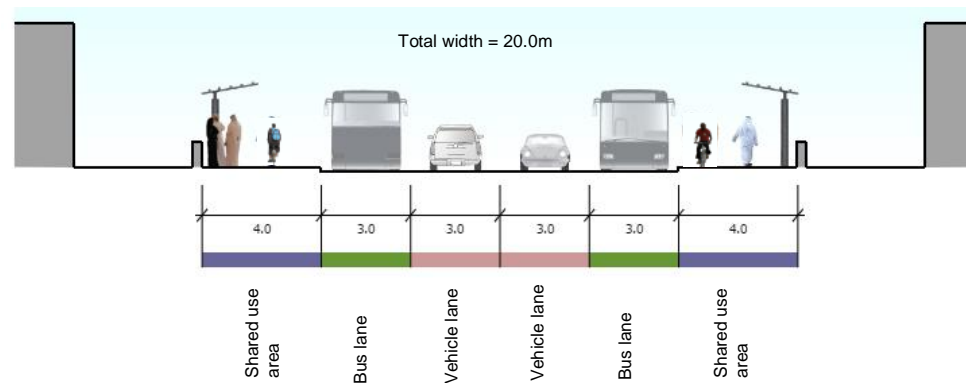
- **Buses:** reduce journey time and improve reliability;
- **Cyclists:** improve cycle priority (segregate where possible), route connectivity and consistency;
- **Pedestrians:** provide adequate footway width and crossing facilities;
- **General traffic:** maintain traffic at today's levels
- **Public realm:** improve quality of public realm; and
- **Parking:** provide for current demand for parking & servicing

Typical Cross Sections

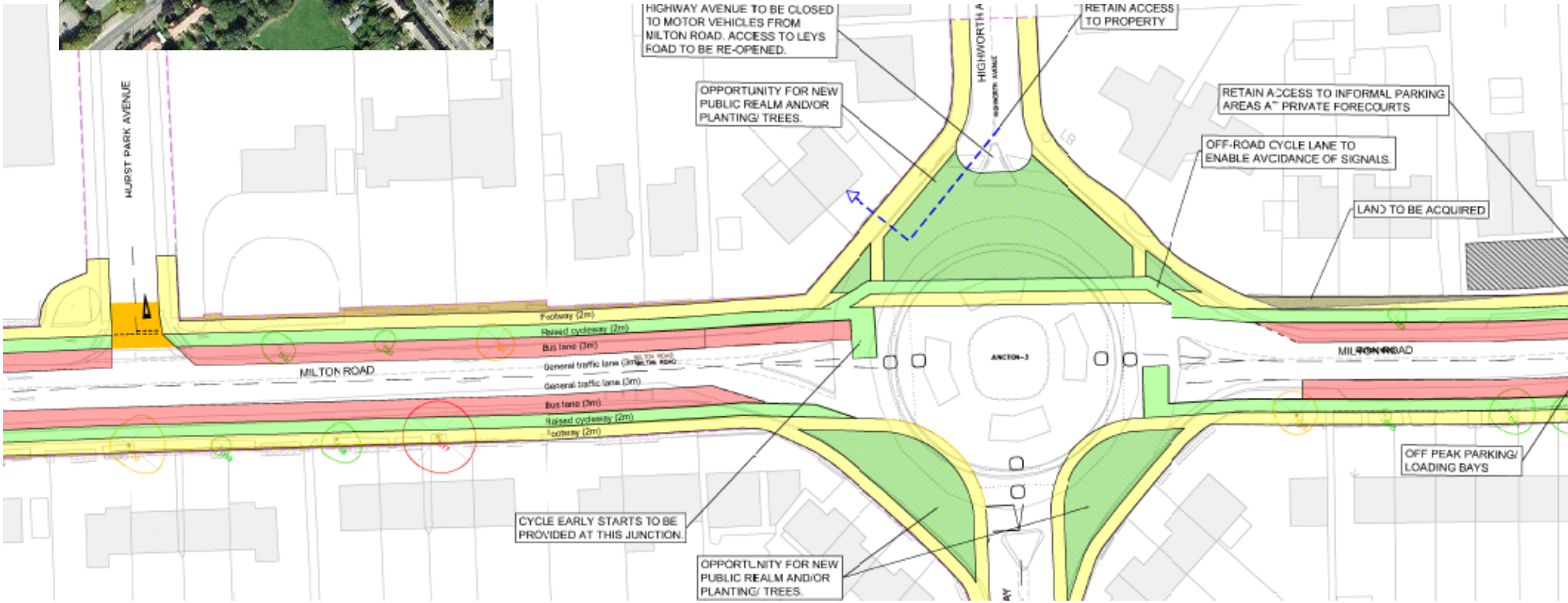
Bus Lane & Raised Cycleway



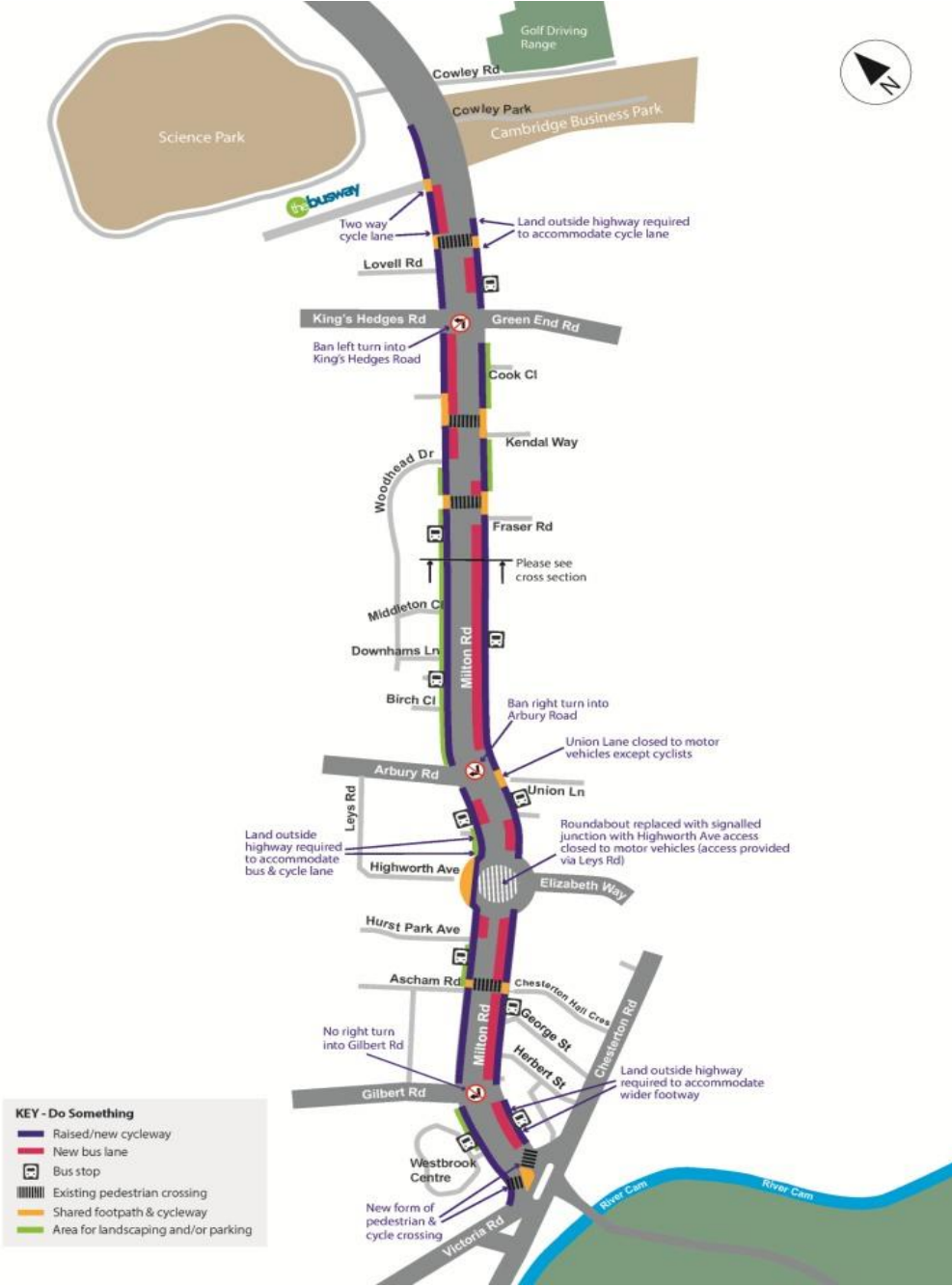
Shared Use Area at Bus Stops & Crossings



CAMBRIDGE TRANSLATING THE CONCEPTS



CAMBRIDGE CONSULTATION



TAKEAWAYS

- **Urban streets are places as well as transport corridors**
 - recognise the interplay between these roles
- **Compromise is required in most cases**
 - Retain sight of objectives
 - Avoid dilution of ideas so much that scheme is not recognisable
- **Roadspace allocation methodologies are maturing**
 - Drawing in urban realm and placemaking skills
 - New breed of professional emerging
 - Particularly relevant to early stages
- **NO 'one size fits all' approach. Depends on:**
 - Scheme complexity
 - Available resources
 - Timescale
- ***Stakeholder engagement is king!***



THANK-YOU

ANY QUESTIONS?