Finding the right GREEN road for Cycle Routes

Begin with the end in mind

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MWH

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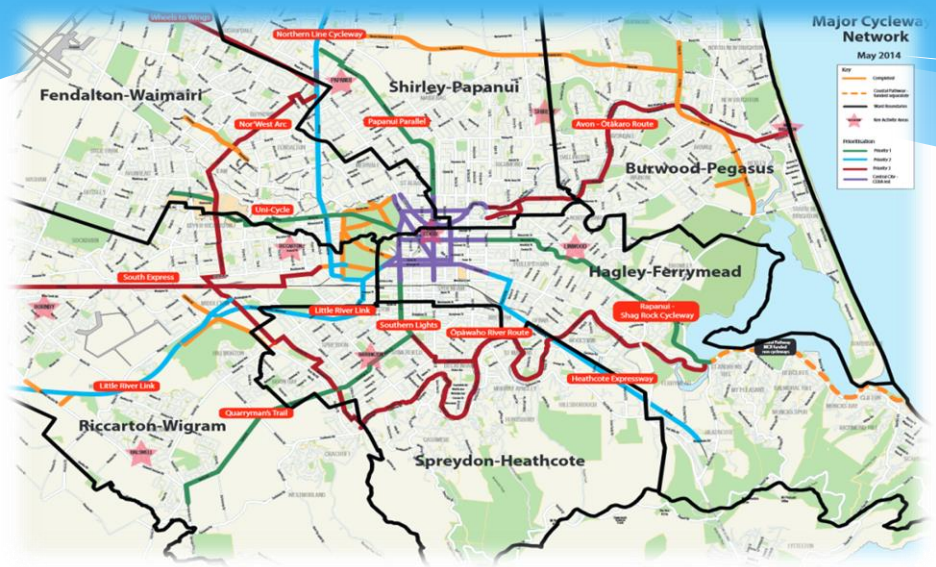
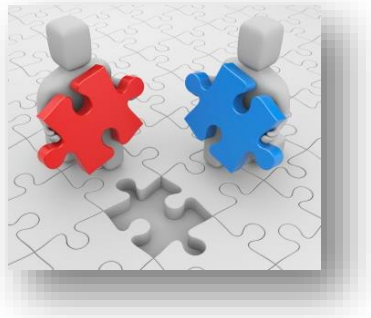
The Public Mandate

* The share an idea approach gave the Authorities a clear direction of what was wanted for the recovery of Christchurch:
  * Liveable,
  * Shared use,
  * Slow Speeds,
  * Excellent Cycle facilities,

Christchurch City Council

Route Selection





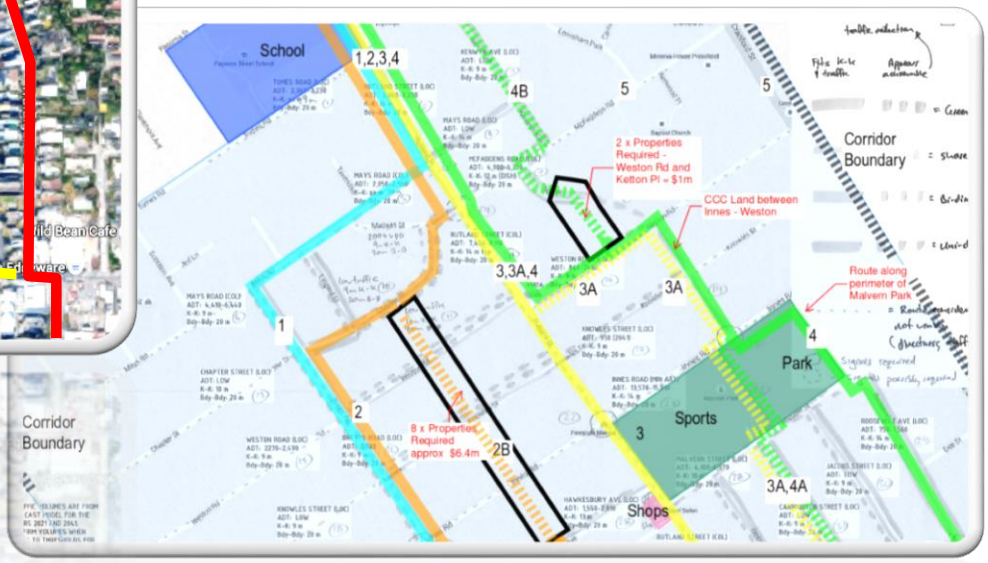
* **Origin and Destination** can be easy
  making it work between the two is the issue!
* **Social and Network impacts**
  * need clear evaluation that is defendable for the Politicians
  * Developed an expanded MCA process for route evaluation and choice
  * CROW and other documents give some good ideas for route selection

Optioneering

Large residential zone with local business, schools and commute cyclists

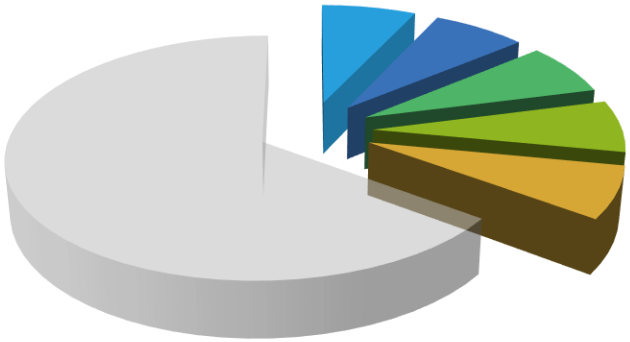
Understand the routes

Use a robust MCA assessment process

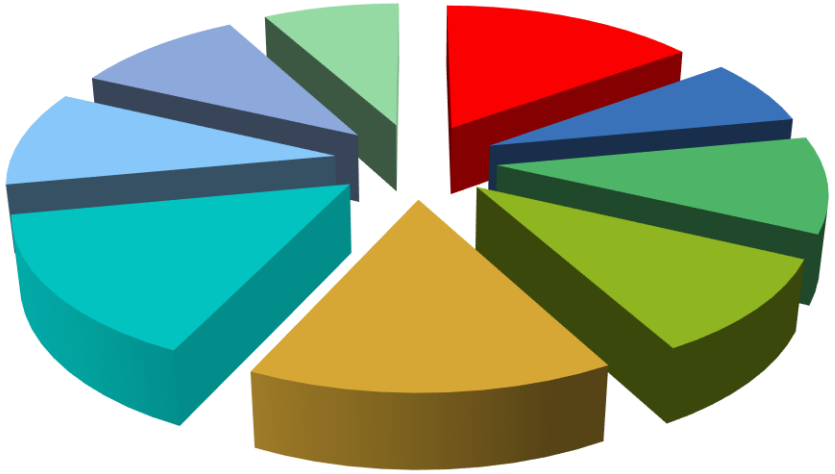


Multi-Criteria Assessment

Conventinal MCA



Modified MCA



MCA Evaluation Spreadsheet

Criteria	Safety and Comfort		Directness and Coherance		Connectivity to Amenity within the corridor		Social Safety and Attractiveness (based on worst feature)		Score	Local
Description	* Safety over route for cyclists GO/NO GO CRITERIA * Safety along route for other users * Relative conflict with other road users ***pedestrians; residents; traffic ***business access * Comfort of users exerience ***perceptions of risk; noise; CO_2		* Time and distance to travel * Match to desire lines. * Easy to recognise route * Limited changing of facility types * Few complicated manoeuvres * Few turns.		* Good match to: ***local schools ***shops ***parks ***other public spaces/buildings		* Greenspace routes need open aspect * Consider CPTED for routes off-street * Pleasantness of cycling experience * Lighting where off-road			* Impa inte * Loa * Effe * Park pos * Esti
Weighting		15%		10%		***		***		
Blue Route 1: Calendonian, Edgeware, Abberley, Browns, Bretts, Mays, Rutland.	Safety - go Edgeware has high traffic volumes, commercial crossing, high peds. Highest number of side street crossings. Browns has narrow bdy to bdy	1	9 turns (corners negotiated), 3110m, shorter than orange and green. Big departure from desire line.	0	Connects to Edgeware well, but Will need links to amenities to the Rutland Street and Rutland reserve and Schools	-1	Mainly on street , Edgeware Road, St Albans busy, with extra traffic signal requirements; balanced by low volume roads with wide verges generally on rest of route.	0	**1**	Affec Color street impac and A shop. with n
Blue Route 1A/1B: Caledonian, Ranfurly, Abberley Park, Kinseys Lane, Browns, Bretts, Mays, Rutland.	Safety - go Off Edgeware, so improvement on 1. Ranfurley and Kinleys quieter, less commercial impact. Narrow Browns issue still.	1.5	10 turns, 3180m, shorter than orange and green. Also big departure from desire line.	0	Similar to 1	-1	Ranfurly more pleasant than Edgeware but have CPTED concerns for Abberley Park and Kinleys Lane c	-1	**1.3**	Gene
Orange Route 2/2B: Bealey, Springfield, Edgeware, Somme, property link,Chapter, Rutland.	Safety - go Close to limit on safety - go. Bealey Ave very high volume - cycle facility and crossing key issue. Springfield has highest volume of north-south roads. Other streets quiet.	0	Starts off with major departure from desire line. Uncertain about configuration of facility on this length of Bealey Ave. Has fewest turns of all routes though.	-0.5	Will need connection to Edgeware and Rutland shops and St Abans School	-1	Bealey and Springfield are busy streets - while better perception of security not partcularly attratcive to cyclists	0	**-2**	Hits a busin Ave ir St Alb Beale issue
Orange Route 2/2A: Caledonian, Holly, Springfield, Edgeware, Somme,	Safety - go More friendly env than 2 above, however still on high volume, narrow length of Springfield. of on road	0.5	12 turns, 3270m, one of longest routes. Big departure from desire	-0.5	Connects to nothing, connectivity as bad as 2 and will need more links	-1	All on street, most of length quieter than above, but Springfield and additional signal	0	**-1**	Avoic area Sprin and S

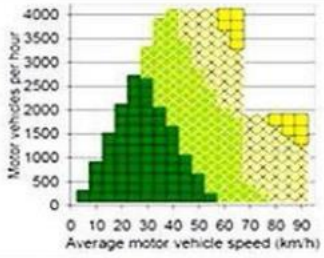
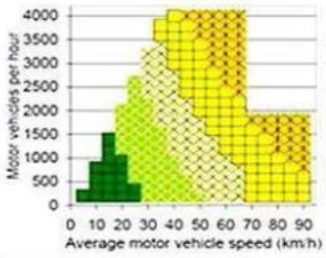
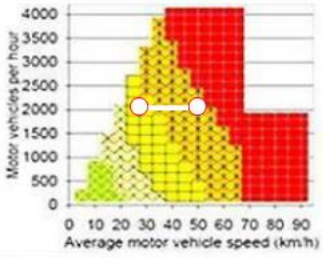
Which Facility for the Route?

- Research the different standards,
- Understand the implications and mitigations required
- Be realistic about the appropriate facility

Table 2: Typical Cycle Provisions

(Source CCC Major Cycleway Design Guide: Part B: Design Principles Best Practice Guide, Table 4-3)

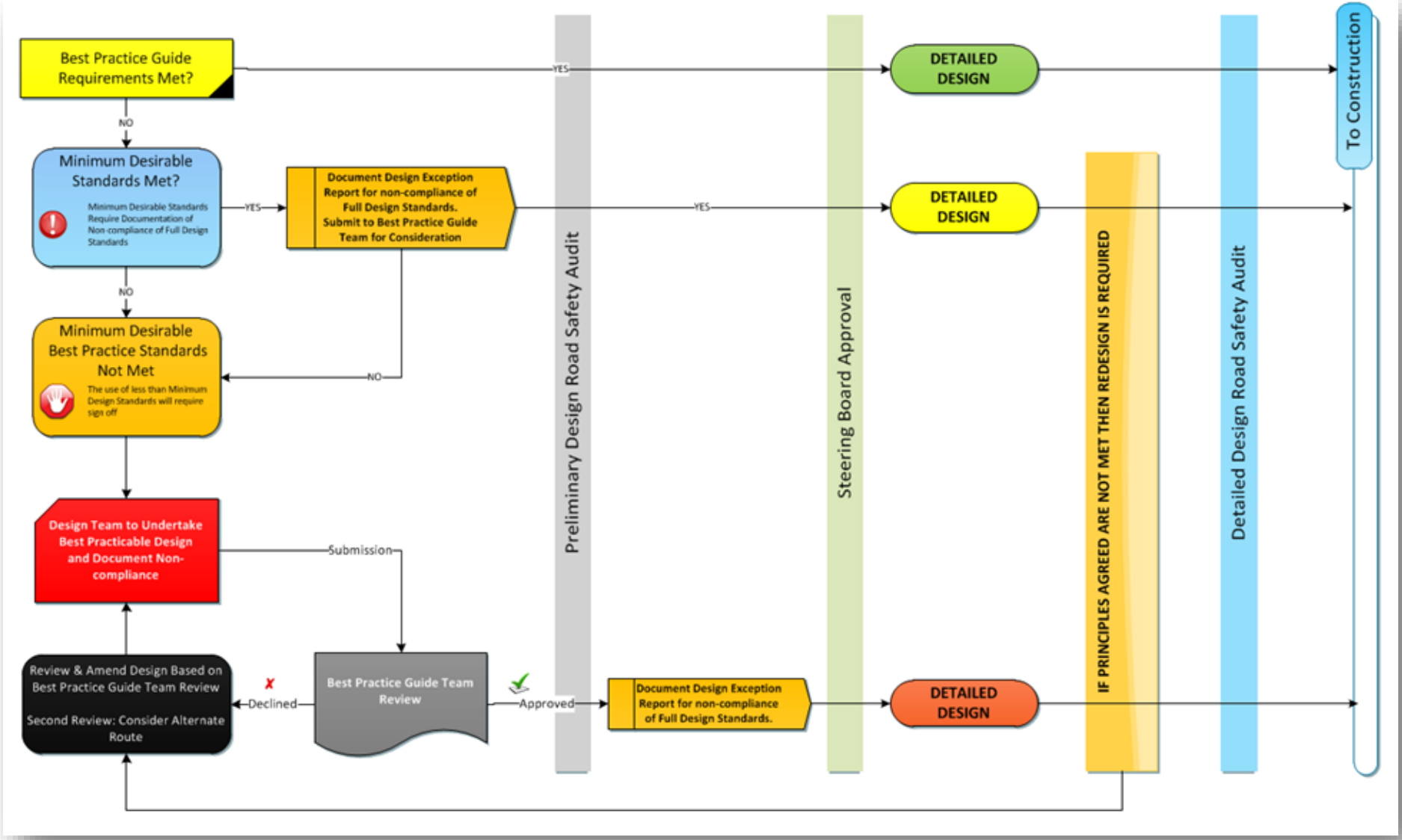
Road category	Max. speed of motorized traffic (posted)	Traffic volume (vpd)	Major Cycleway
Urban Residential	30 km/h	<1000vpd[2] desirable – 1500vpd max[3]	Neighborhood Greenways*
Urban Residential	50 km/h	>1000* – 5000 vpd	Separated 2-way path in each direction or off-road shared path
		5000vpd	Separated 1-way in each direction
Urban Commercial	30 km/hr	<1000vpd desirable – 1500vpd max	Neighborhood Greenways
	30 km/hr	>1500vpd	Specific design required and will vary on traffic mix and parking provisions. Not advised for core bus routes or large proportion of Large Vehicles (HCV). Target design speed would be 20km/hr if cyclists mixing with traffic to suit speed of a person who rides a bike.
		1000vpd	Separated 1-way in each direction. (+Copenhagen Facility)
		Irrelevant	Separated 1-way in each direction. (+Copenhagen Facility)
			Separated 1-way in each direction with increased separation over that of 50km/hr.

Copenhagen style facility	Bicycle lane or sealed shoulder facility	No exclusive bicycle facility
		
For example 2.2 m cycle track located behind a kerb.	For example a 1.5 m bicycle lane on urban roads or a 1 m sealed shoulder on rural road.	For example bicycles share 3.75 m kerb side lane with vehicles.

LOS A B C D E F

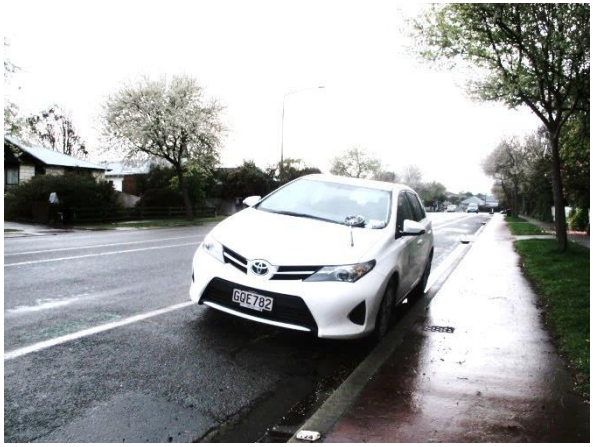
Figure 6: Example Level of Service Table *(Source: AUSTROADS AP-R475-15 Level of Service Metrics)*

Route / Facilities Selection



Parking and Access

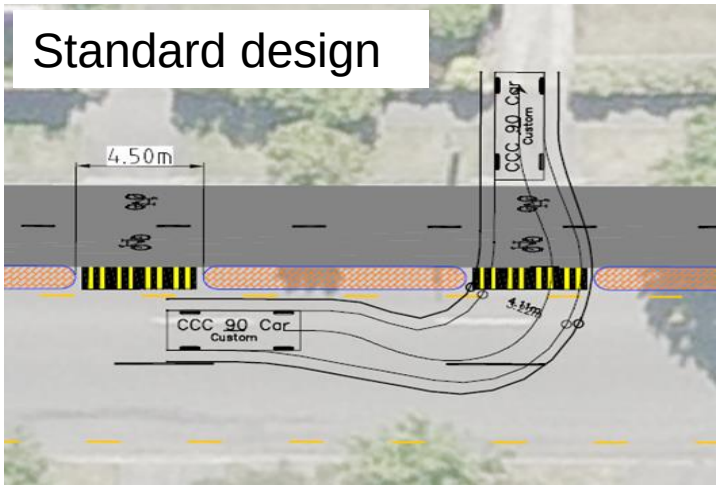
* Political Mandate to address these issues
* Individual arguments – change to *Social Argument*
* *Understand the real needs*
* Alternate arrangements –consider and detail
* Safe turning requirements
* Parking and no-stopping Regulations

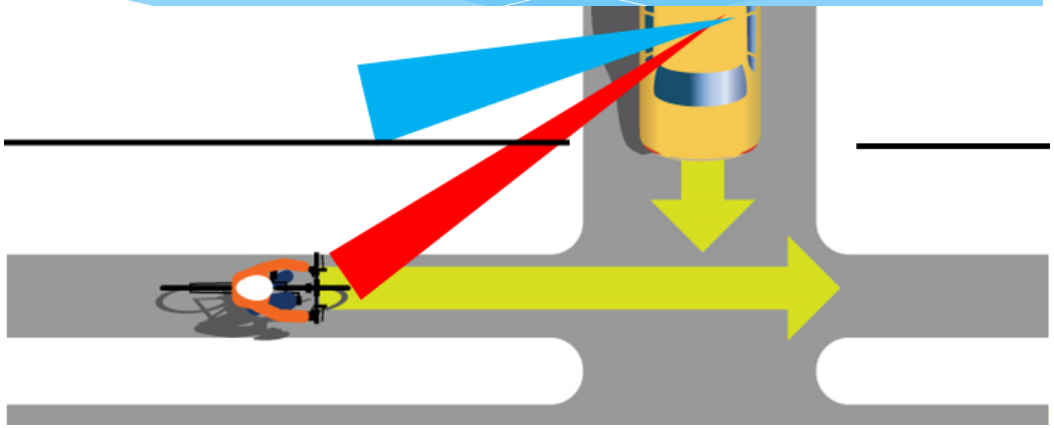


Access Movement Impacts

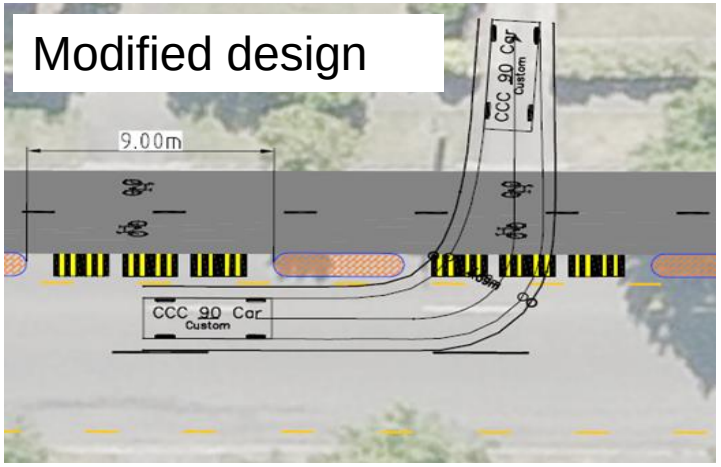
- Always understand how an access will be used
- Consider the view from the drivers perspective
- Facility type has a large influence on safety

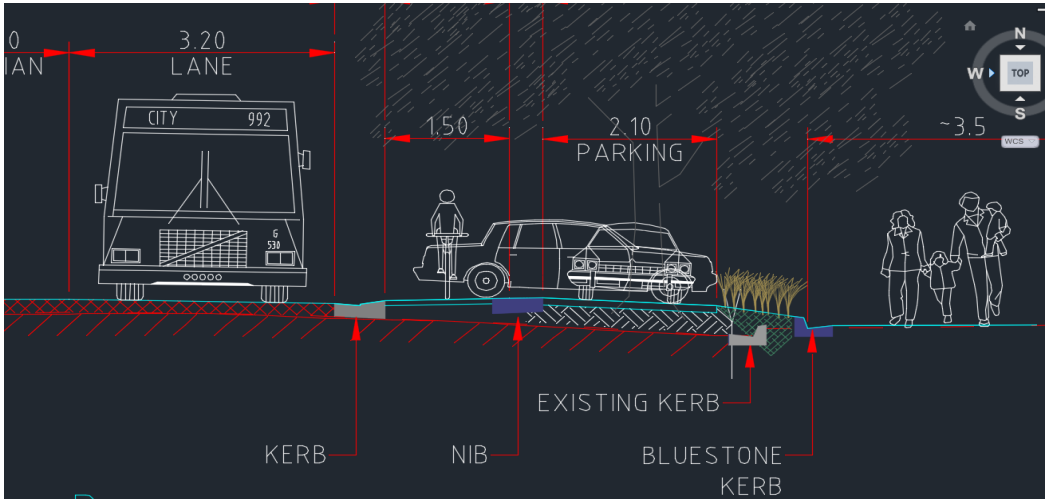
Standard design



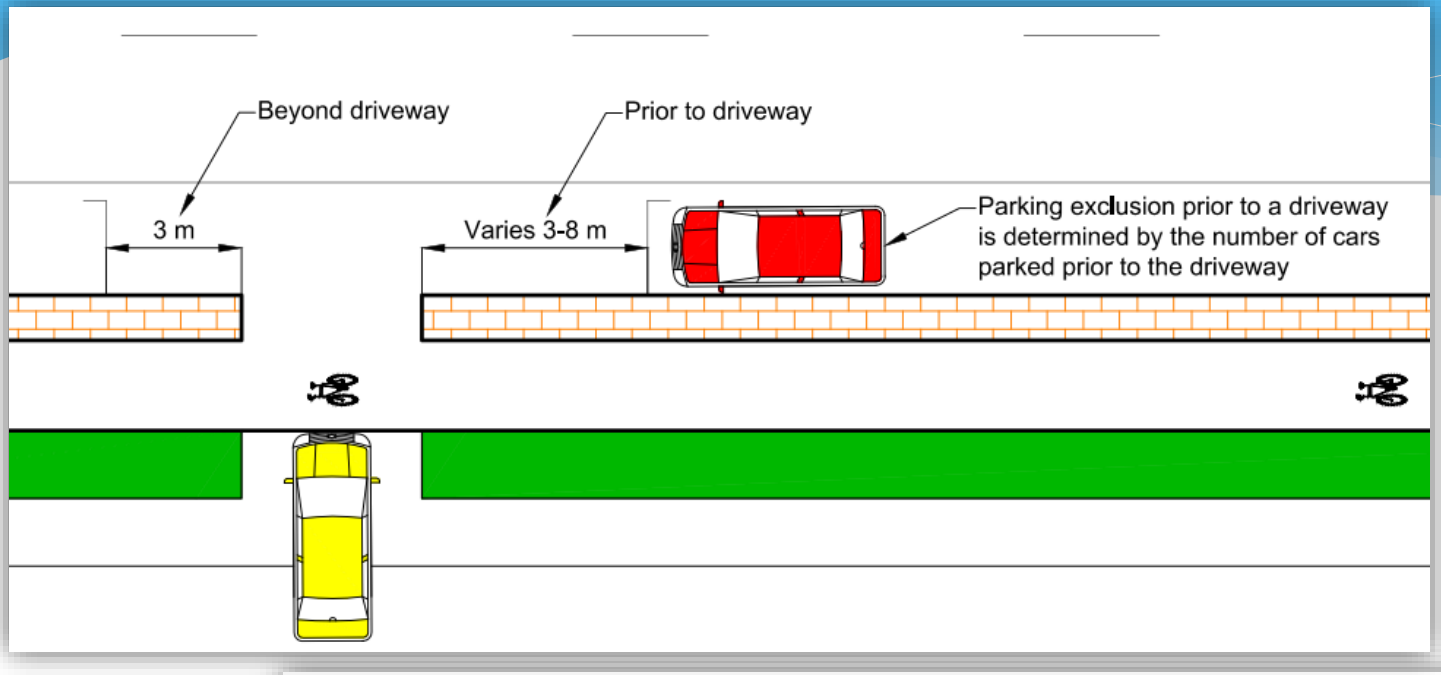


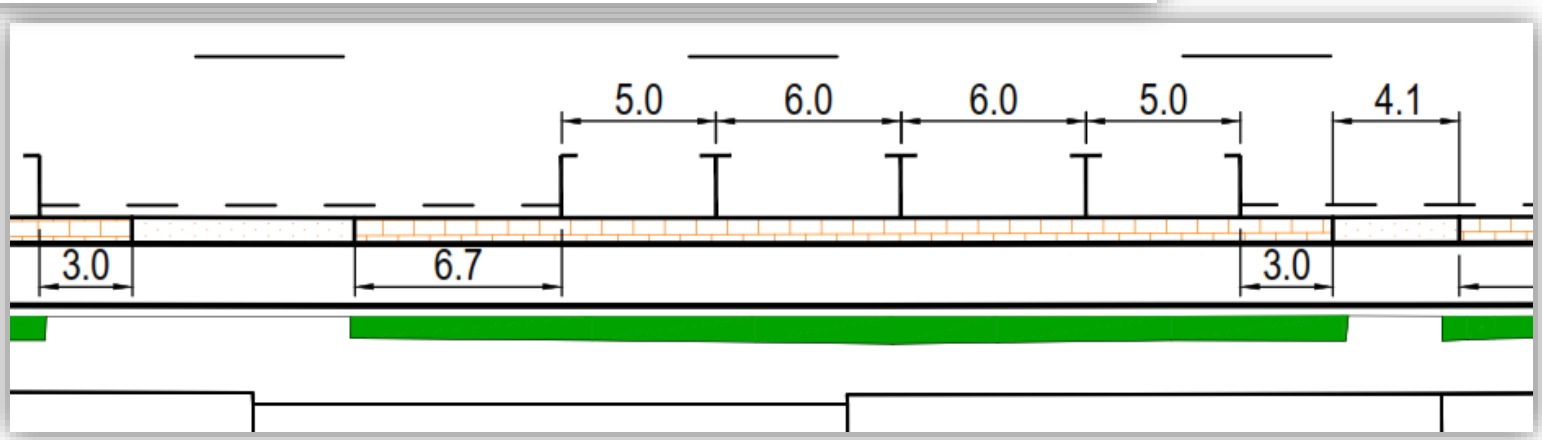
Modified design





Parking Impacts





Summary

Begin with the end in mind

Stephen Covey

* The selection of the best cycle route is fraught with hidden issues
* Understand the characteristics and environment(s) of the route(s)
* You need a clear mandate to work from
* MUST use a robust evaluation of the proposed route
* Exceptions MUST be documented to ensure that our governance \ Politicians can defend our decisions