

# Cycling for a more sustainable transport system

Patrícia Vasconcelos



# Sustainability

- balance
  - environmental quality
  - social justice and equity
  - economic prosperity
- quality of life



Source: Sustainable  
Business Network

# Sustainable transport

- promotes human health
  - provides opportunities for social interaction
  - enriches urban experiences
  - provides mobility and accessibility
  - offers transportation choices
- 

# Contents

- Role of cycling
- Types of cyclists
- Cycle routes
- Cycling in Auckland
- Conclusions



# Path to a more sustainable transport



- reducing need of travel
  - distance needed for travel
- more energy efficient & less polluting motor vehicles
- change mode of travel
  - public transport
  - walking
  - cycling

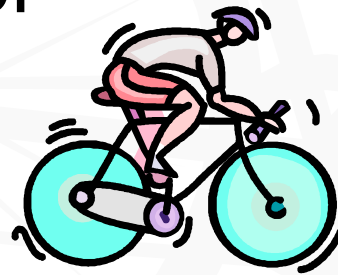
# Cycling

- environmental friendly
- affordable
- energy efficient
- provides access & mobility to a wide range of people



# Types of cyclists

- children
- teenagers
- recreational
- commuter
  - basic competent
  - faster
- utility
- touring
- sports
- users of specialised equipment



# Cyclist requirements

- space to cycle
- smooth & even surface
- speed maintenance
- connectivity
- information



# Cycle routes

- coherent
- direct
- attractive
- safe
- comfortable



# Two types of cycle routes

- on-road routes
  - e.g. ■ state highways
  - urban roads
  - rural roads
  - bus lanes



- off-road routes
  - e.g. ■ converted footpaths
  - water courses & foreshores
  - reserves & parks
  - power line corridors

GREENWAYS

# Greenways

- popular among cyclists
- feature urban greening
- efficient use of land → multifunctional nature
- wide spectrum of benefits (48)
  - environmental
  - economic
  - social
- sensitive approach for greater urban sustainability



# Advantages

## On-road routes

- direct
- coherent
- controlled intersections
- high level of surveillance
- better surface conditions



## Off-road routes

- absence of motor traffic
- attractive & pleasant environment
- provide extra links
- encourage new trips



# Disadvantages

## On-road routes

- high volume motor traffic
- traffic fumes & noise
- motor traffic speeds
- hazards from side roads & driveways



## Off-road routes

- connection to roads & across them
- isolated
- less safe/secure without a high design standard



# Constraints

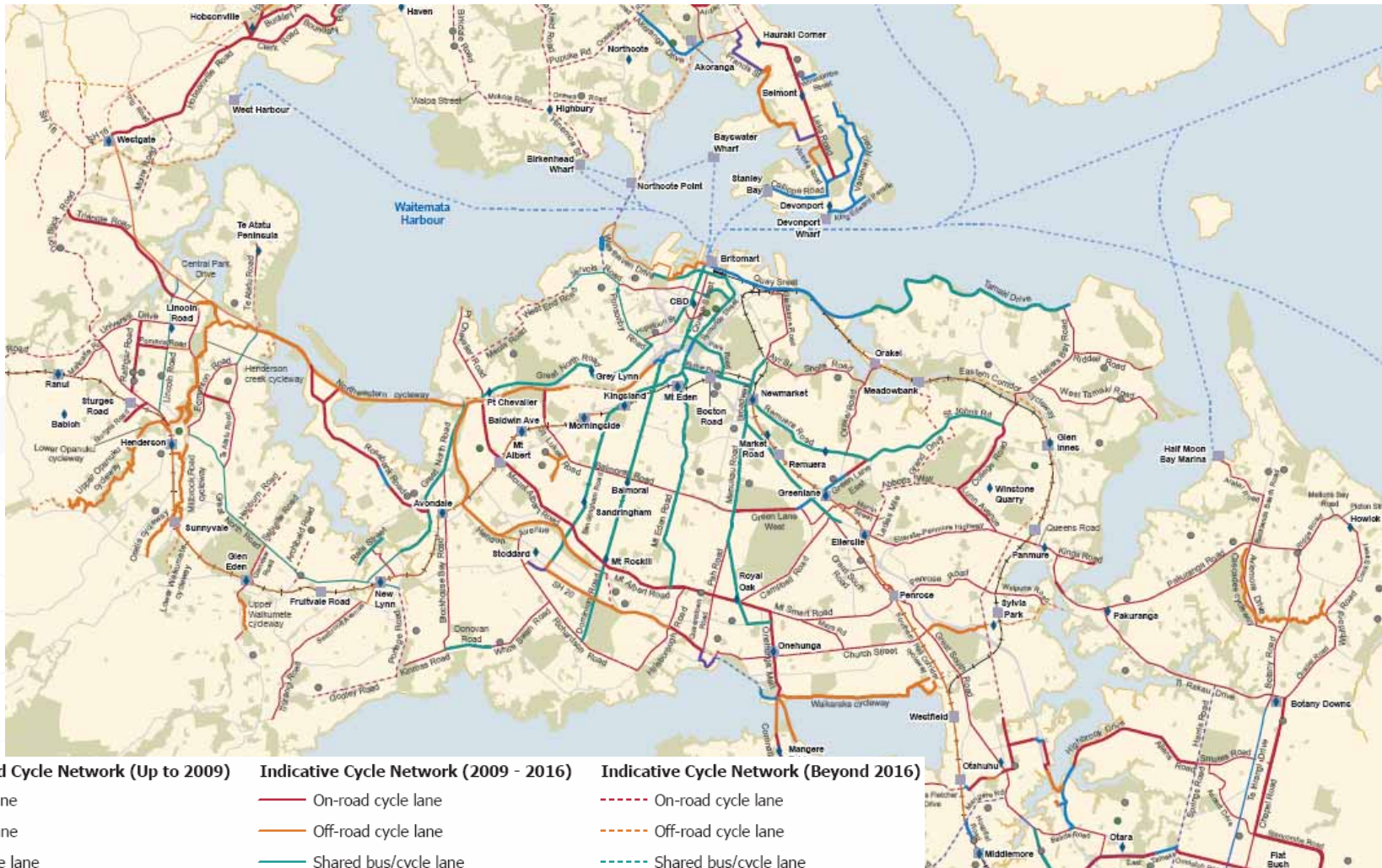
## On-road routes

- insufficient space
- parking demands
- conflict adjacent commercial activities
- conflict residential areas

## Off-road routes

- land availability

# Auckland cycle network map



Current and Proposed Cycle Network (Up to 2009)

- On-road cycle lane
- Off-road cycle lane
- Shared bus/cycle lane
- Shared footpath
- Unknown/other

Indicative Cycle Network (2009 - 2016)

- On-road cycle lane
- Off-road cycle lane
- Shared bus/cycle lane
- Shared footpath
- Unknown/other

Indicative Cycle Network (Beyond 2016)

- - - On-road cycle lane
- - - Off-road cycle lane
- - - Shared bus/cycle lane
- - - Shared footpath
- - - Unknown/other

Role of cycling => Types of cyclists => Cycle routes => **Cycling in Auckland** => Conclusions

# Auckland cycle network

- coherent network
- connectivity across the region → macro-scale!
- mainly on-road routes
  - cycle lanes & shared cycle/bus lanes
- few off-road routes
  - mainly footpaths converted to shared use paths
- main objective → serve (experienced) commuters



# From a sustainable view

- fully integration in transport system based on five-point hierarchy



Disregarded – particularly the two first points:  
*reduce traffic volumes & traffic speeds*

- multi-modal transport approach
  - cycle routes toward bus & railway stops
  - safe cycle parking & storage in transit



Some planned cycle routes & parking!

# From a sustainable view (cont.)

- permeability of cycle network
  - more than motor traffic network
  - retain existing cyclists
  - motivate new cyclists
  - give advantage to non-motorised users



Not in place!

- short distance cycle trips – crucial!



Disregarded!

# Conclusions

- Cycling is important in a sustainable transport system
- Auckland region cycle network
  - serves (experienced) commuters
  - non-provision of cycle-friendly environment for all types of cyclists
- One common characteristic to all types of cyclists → they prefer to have their space

# Conclusions (cont.)

- Off-road routes most favourable type of route
  - well planned & designed



- comfort & safe
- coherent
- direct & faster
- smoothed & even surfaces

- Off-road routes, especially on greenways are a more sustainable choice!

