

South West LRT

Perth Light Rail TOD Masterclass

PIA(WA) / ACNU

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Masterclass Brief

1. Identify destinations / alternatives
2. Identify redevelopment opportunities
3. Locate stops / ped sheds / connectivity
4. Estimate densities (residents, workers, students, others)
5. Identify stops / TODS, priorities
6. Identify interchange opportunities
7. Test intensification options
8. Review green spaces
9. Prepare Corridor Plan

South-West

TEAM EXPERTISE/ROLE	LRT SOUTH WEST
Facilitators/Urban Designers	Steve Thorne Peter Annand Chris Hair
Transport specialist	Chris Stapleton (P/T)
Urban designer or architect	Jeff Thierfelder Naomi Kavanagh
Transport focus	Simon Cox Louise Howells Michael Somerville-Brown
Planning focus	Mark Bancroft Robina Crook Jeremy Holland Lucian Iocob Michael Murphy Michael Willcock
Engineering focus	Christie McKinnon Eamonn O'Lionnain
Other	Diona Olarv (UWA)



South-West LRT Objectives

- Enhancing travel options between Perth, UWA, QEII and Kings Park
- Increasing the density and intensity of use surrounding these destinations
- Integrating and reconnecting the park with the city – respecting the value of Kings Park
- Making LRT an attractive and preferred choice for commuters

Destination Connections

- UWA – Perth – academia and industry
- QEII – UWA – teaching hospital synergies
- QEII – Perth – accessibility to essential health services
- Perth – Kings Park – 6M+ visitors per annum
- Metrorail – LRT – Perth Underground (CBD) and Esplanade 50-50 split (Perth Waterfront)

Destination Connections

- Kings Park – QEII/UWA – park connections and access to new town
- Perth visitors/residents – improved access to their “local park”
- Perth Waterfront – connections to the waterfront, improving its development potential along the Swan

Public Transport Plan to 2031

- State Government release of Plan for comment
- Indicative route: West Perth via Thomas Street to QEII and UWA
- Development of options to address issues along route

MetroRail Incoming Commuters



Route Exploration 1



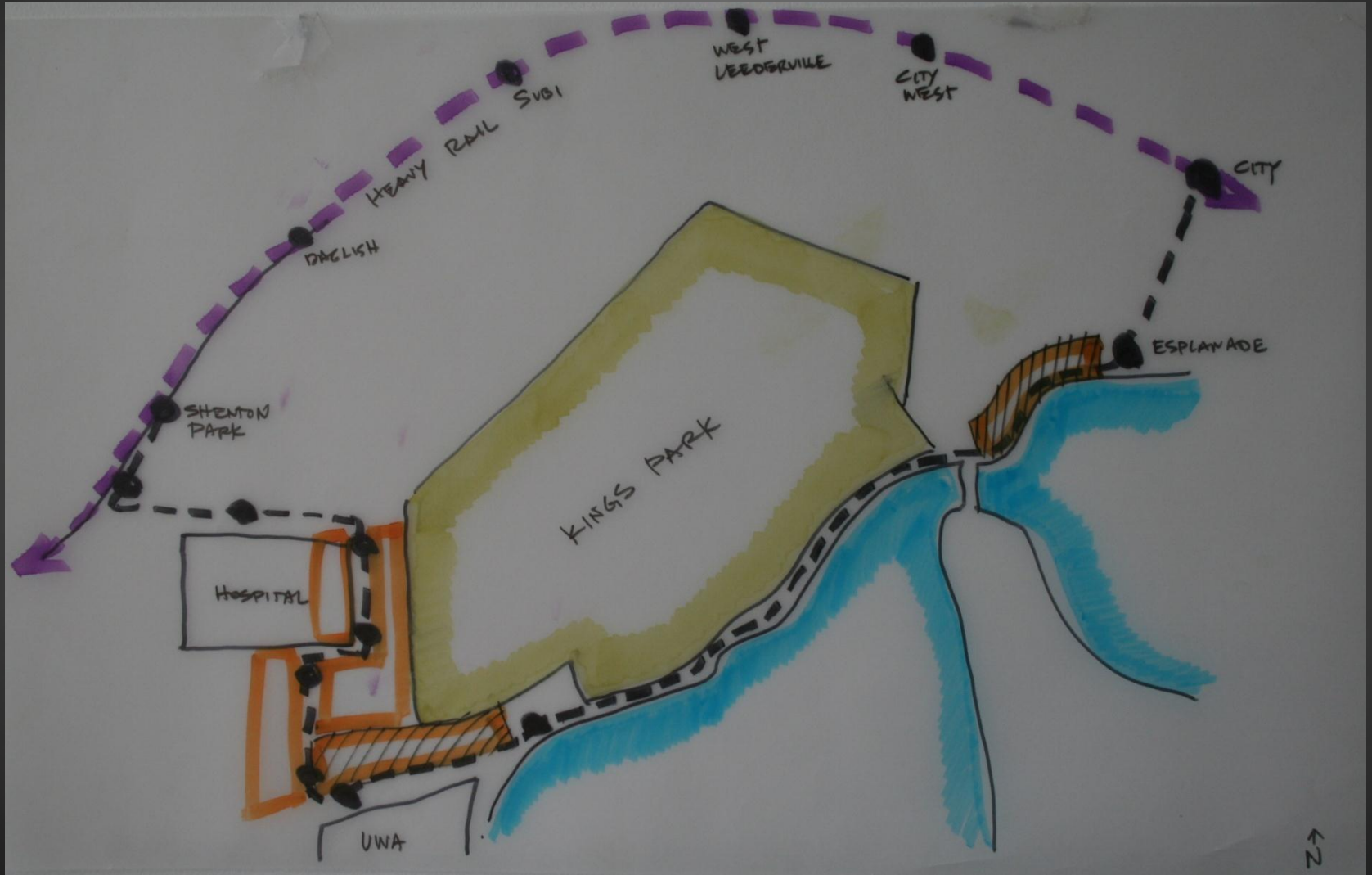
Route Exploration 2



Route Exploration 3



Route Exploration 4



Exploratory Evaluation

- No predominant route alignment
- Need to determine the role of LRT - mass transit or commuting between destinations
- Density and redevelopment opportunities

Issues / Alternatives

- UWA (60%) and QEII (30%) represent large majority of AM peak attractions (excluding CBD)
- Moderate growth potential in West Perth and one-sided catchment along Thomas Street
- Existing Bus Service from Esplanade to UWA / QEII provides fast and direct connection along Mount's Bay Road
- Light Rail connections will not be competitive under existing conditions
- Provide more direct connections and opportunities for non-commuter use (e.g. tourist and recreation)



- OPTIONAL ROUTES
- PROPOSED ROUTE
- 200m. CORRIDOR.

Route Analysis Option 4



Initial Travel Time Comparisons

Stop Delays

- 40s delay per stop

Average Speed

- Fast Sections – 60kph
- Medium – 35kph
- Slow – 20kph

- City Centre Connection to UWA / QEII

Route	Travel Time (minutes)
West Perth	23.5
Subiaco / West Perth	30.5
Waterfront / Shenton Park	24.9*
King's Park / St. George's Terrace	23.9

* Serves UWA first

Route Analysis - Speed Comparisons



Patronage Forecasts

- Majority of trips between City Centre and UWA / QEII
- West Perth and Subiaco routes provide potential patronage
- Waterfront and King's Park routes provide Esplanade connection
- Tidal peak demand on King's Park and Waterfront options
- West Perth and Subiaco provide 2-way patronage during peak hours

Initial Evaluation of Route Options

Route	Travel Times	Trips	Development Opportunities	Legibility and Connectivity	Impact on other Transport	Total
West Perth	+1	+1	+1	+1	-1	+3
Subiaco / West Perth	-1	+1	+1	0	-2	-1
Esplanade / Shenton Park	+1	0	0	+2	-2	+1
King's Park / St. George's Terrace	+1	0	0	+2	0	+3

Route Evaluation

- Subiaco Alignment does not stack up
- Waterfront Alignment is constrained by road widths (and risk of sea level rise)
- Three remaining alignments have similar travel times
- QEII to UWA route is indirect with many right-angle turns, resulting in long travel times

Revised Travel Time Comparisons

Differences

- Winthrop Avenue used for fast connection between QEII and UWA
- Waterfront route provides express service – UWA stop on Mount's Bay Road

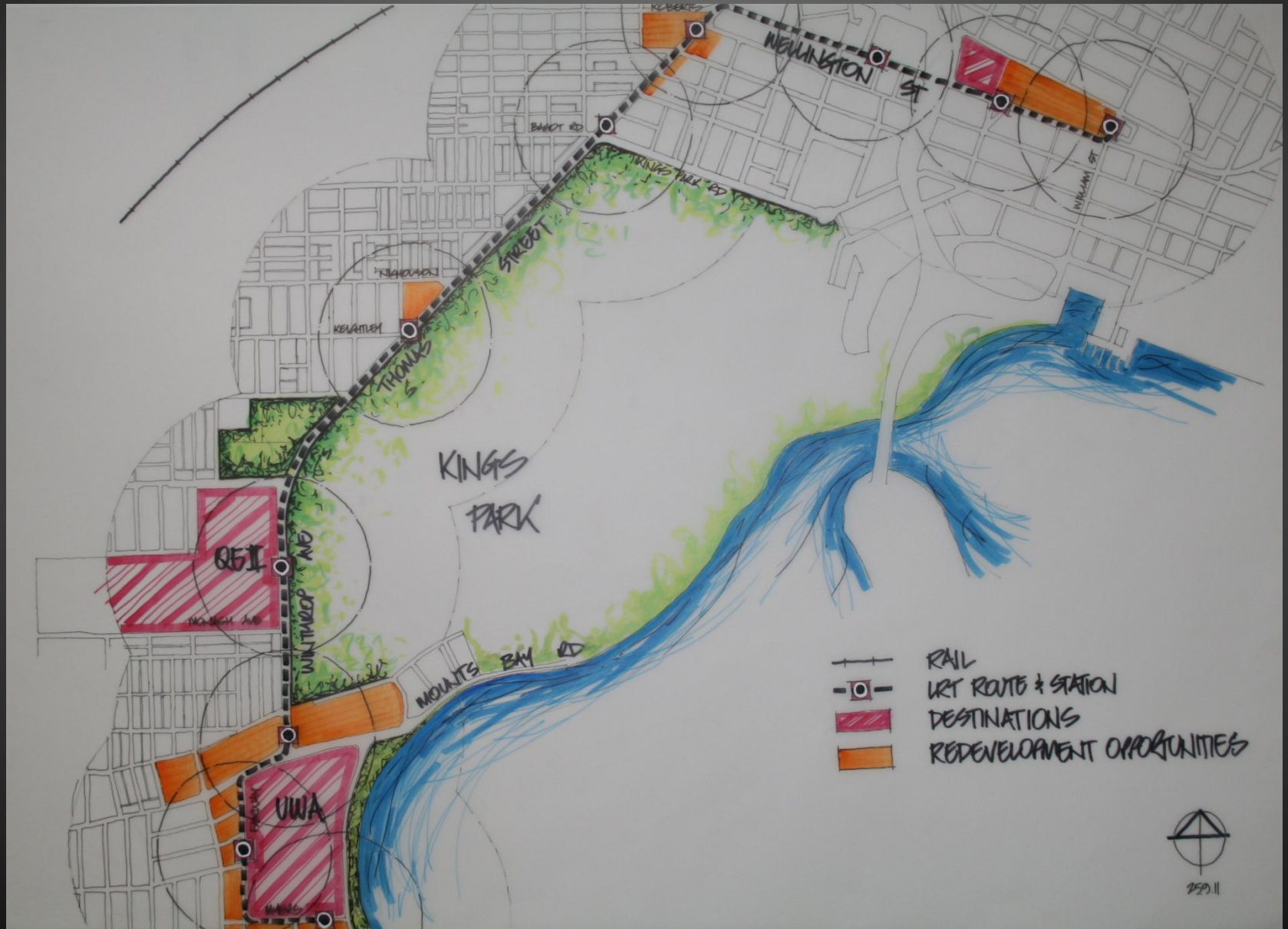
Route	Travel Time (minutes)
West Perth	20.4
Waterfront / Shenton Park	17.1
King's Park / St. George's Terrace	20.8

Revised Evaluation of Route Options

Route	Travel Times	Trips	Development Opportunities	Legibility and Connectivity	Impact on other Transport	Total
West Perth	+1	+1	+1	+1	-1	+3
Esplanade / Shenton Park	+2	-1	0	+2	-2	+1
King's Park / St. George's Terrace	+1	0	0	+2	0	+3

On the basis of this evaluation, Esplanade to Shenton Park Route is discounted

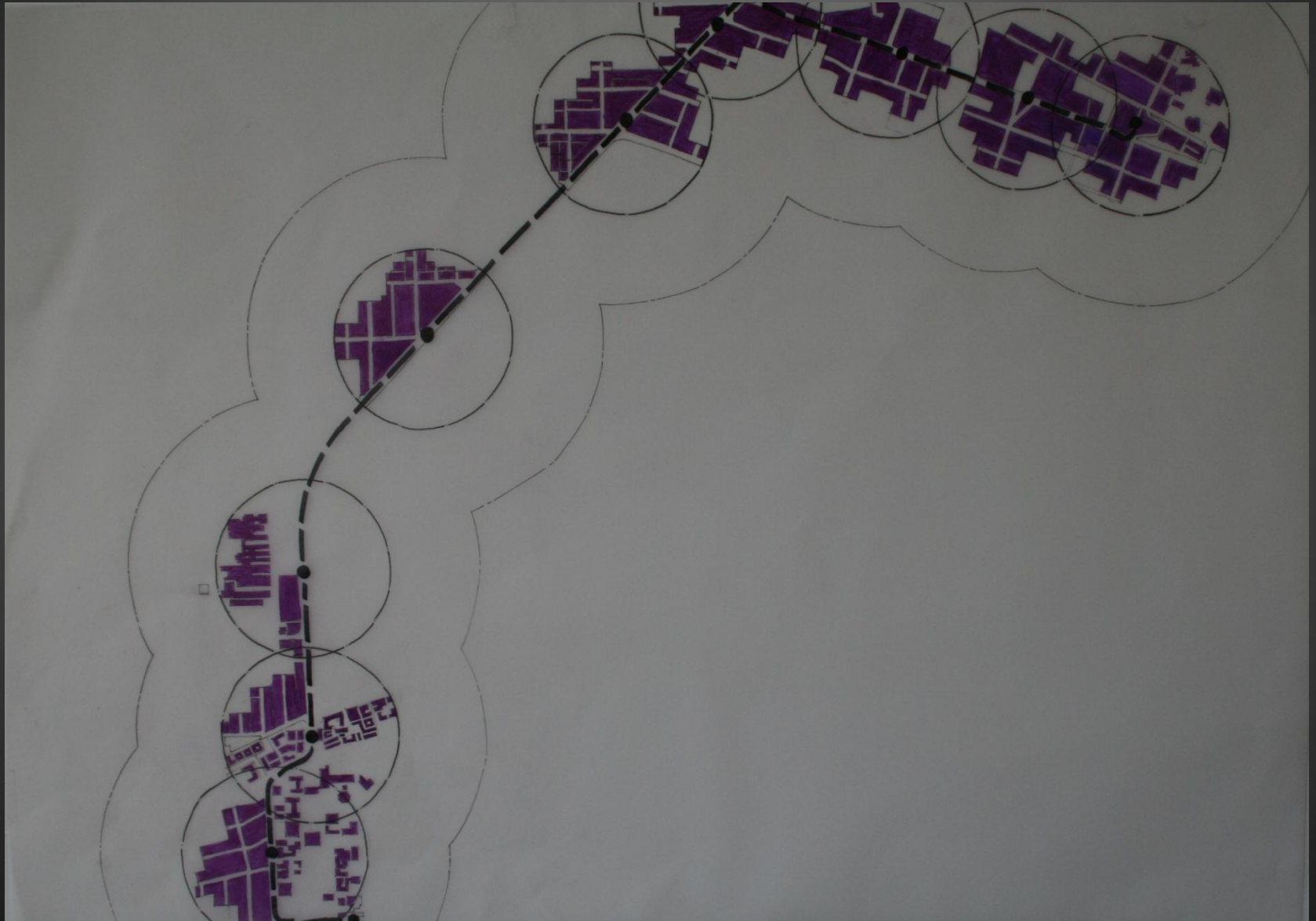
Thomas Street Route Plan



Expected Demand – Thomas Street



Thomas Street Ped-Shed



Kings Park Route Plan



Expected Demand – Kings Park



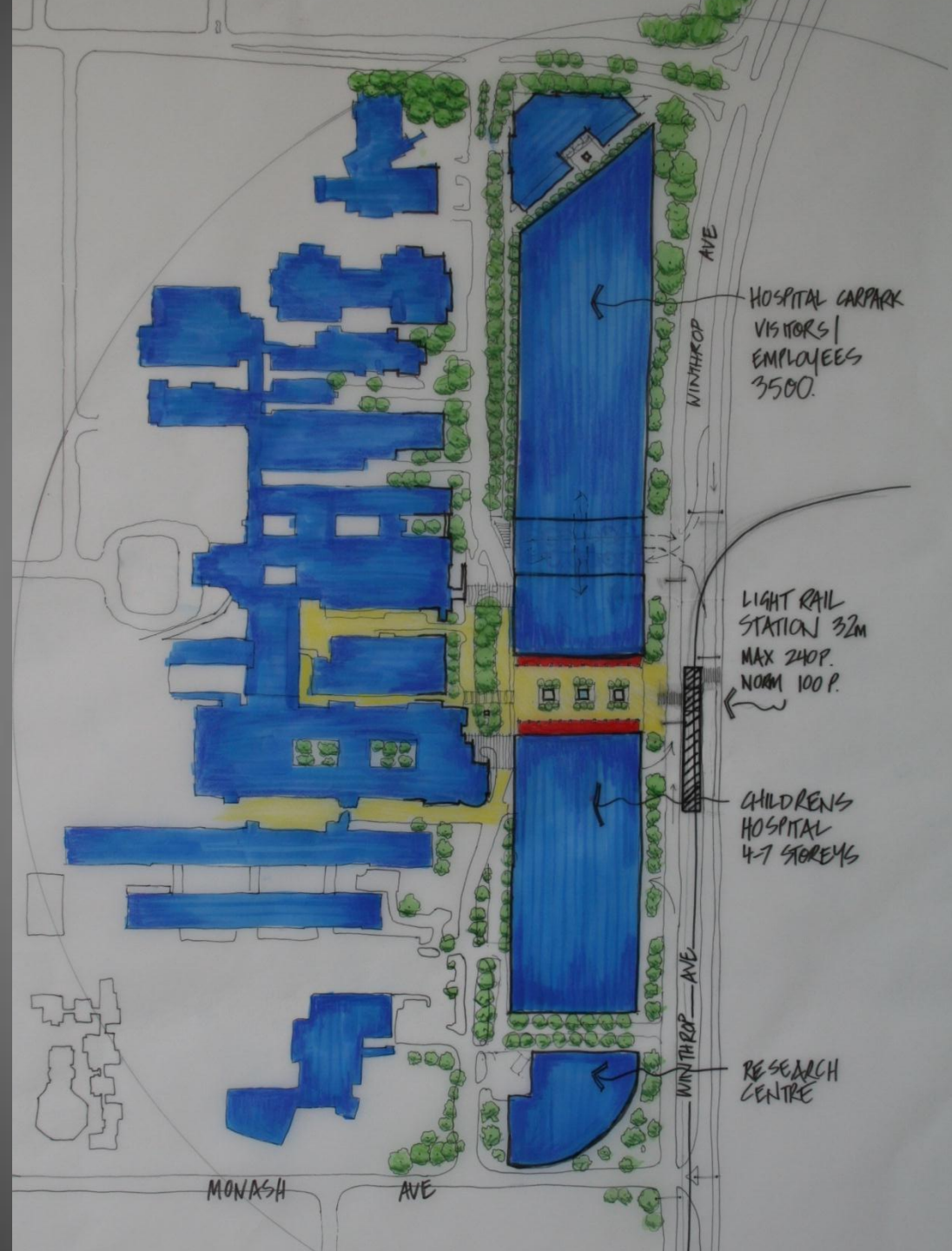
Kings Park – Boardwalk Vista



West End Town – Descriptors

- Urban village – built on UWA land
 - Public interface with UWA
 - Student living
 - Retail, food and beverage, entertainment
 - Research
- Capacity to redevelop / enhance Clarke Street
- 3, 4, 6 storeys from Fairway to UWA
- Broadway – consolidated ‘edge’ of Village

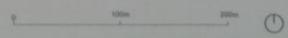
QEII Station



QEII



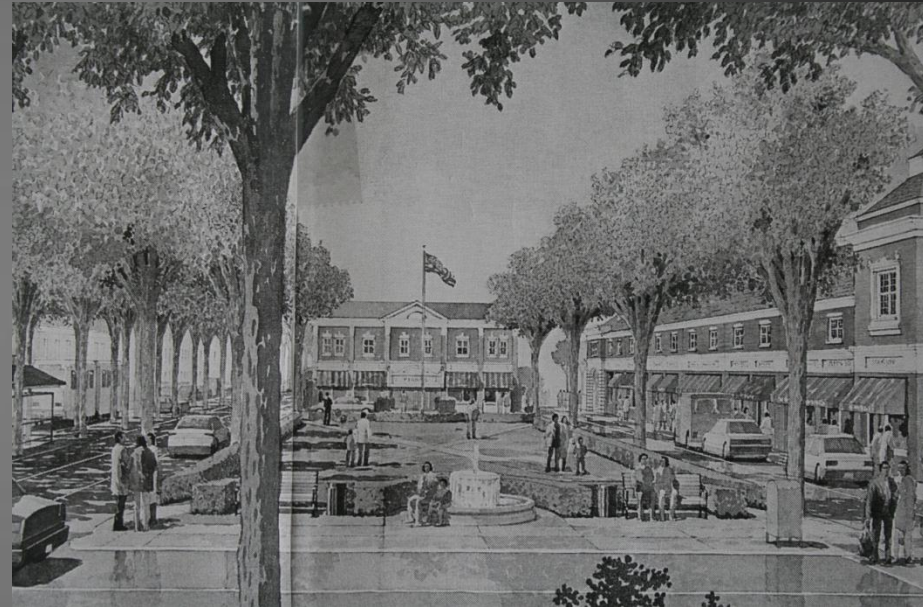
QEII MEDICAL CENTRE
HEALTH SERVICES REDEVELOPMENT: STAGING DIAGRAM
14.5.2010



Legend
 STAGE ONE

File Path: P:\pqr\0101\PR040817 Drawing\116_Suave\0101\QEII_Medical\Revel\staging

QEII Plaza



UWA Village



UWA Village

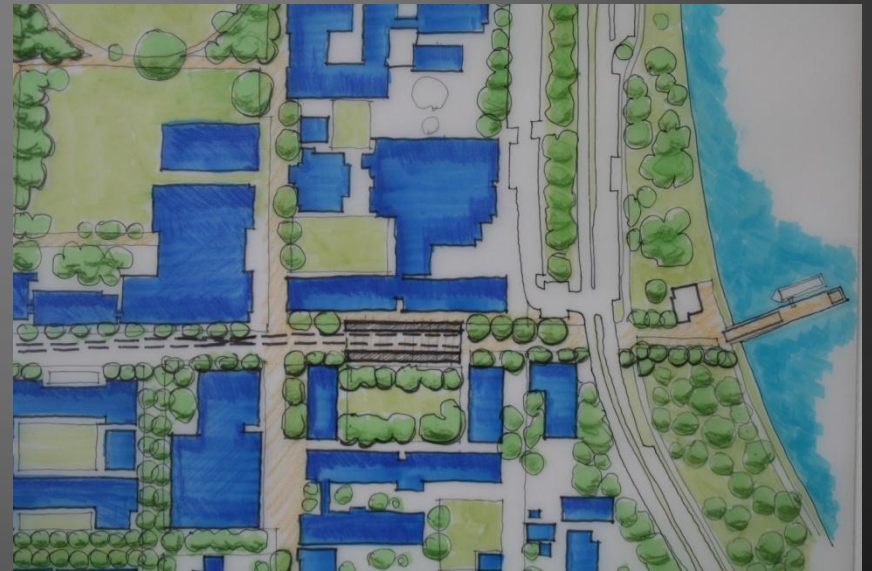
North East - 1,695 units

North West – 240 units

Fairway – 1,806 units



UWA Village



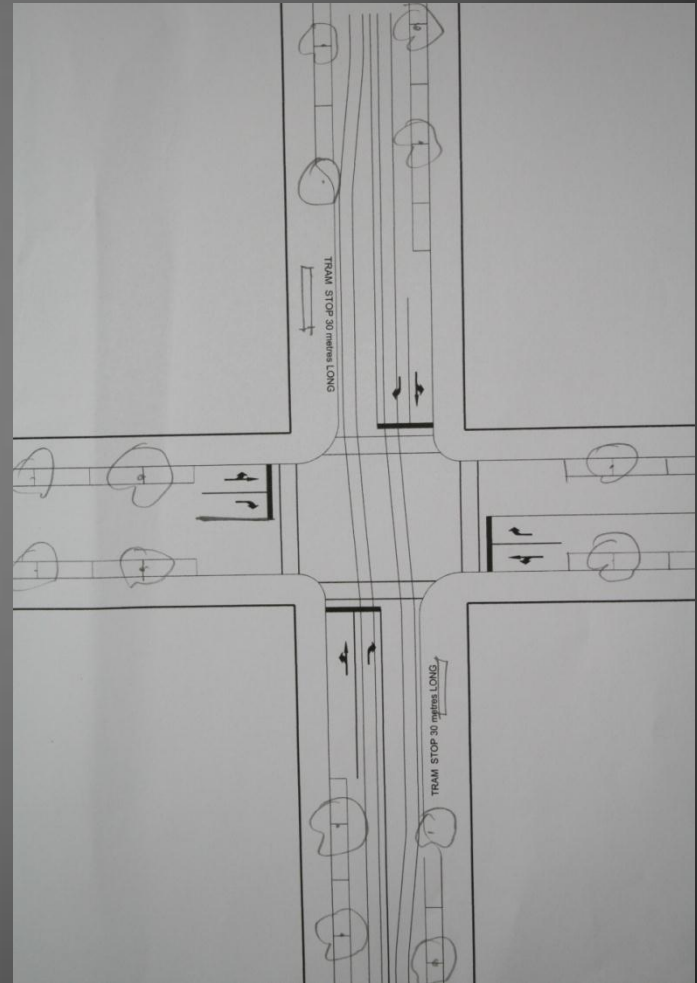
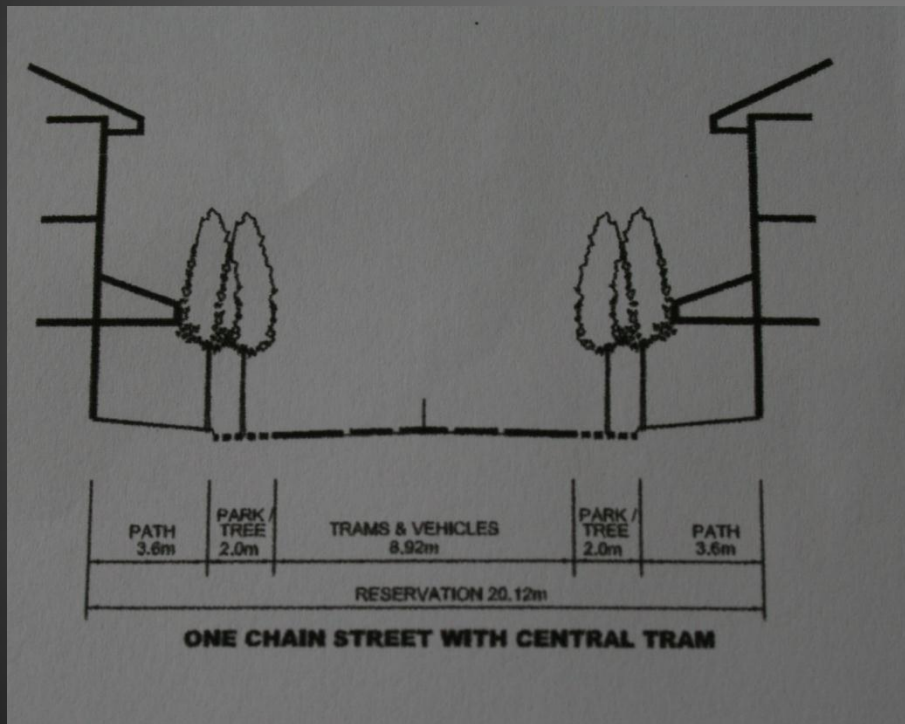
University Village



Mounts Bay Road – Kings Park Cross-section



Indicative Engineering Cross-Sections



Actions, Strategies, Priorities

- Ensure capacity of Perth / Esplanade transport hub
- Prepare community engagement strategy to demonstrate public benefits of Kings Park / St Georges Terrace route to gain public support
- Construct LRT via Route A or B to QEII and UWA
- Reduce parking station at QEII if possible ...
Collect \$90 million

Actions, Strategies, Priorities

- Negotiate funding repayments for bus replacement
- Create Integrated Village / University Masterplan
 - Integrate university functions with wider community
 - Develop new transit village on Mounts Bay Road / Broadway
 - Apply strong place-making principles

Funding

- \$180M for 4,500 cars
 - 10% reduction saves \$18M
 - 20% reduction saves \$32M
- Bus can save \$3M on reduction of current routes
 - approx \$5-7M on future routes
- Development yield
 - Residential units – 7,000 units (5,000 uni)
 - Retail – 5,000m²
 - Commercial – 5,000m²
 - University – 10,000m²

Costs and Benefits

COSTS

- Infrastructure
- Thomas Street (City bypass loss of capacity)
- Reduction of “wilderness” value of Kings Park

Costs and Benefits (ctd)

BENEFITS

- Coherent connection with capacity between University Village and City Centre
- Connection Kings Park and City (A)
- Clarifies structure of University Village
- Significant increase in residential accommodation
- Better address/access to iconic park
- Identifiable 'place'
- Potential LRT / Ferry integration
- Connects Princess Margaret Hospital site (B)
- Improves access to workers in Wellington Street (B)
- Integrates with Esplanade Station (A)