

Presentation to Memorial Park
Project Committee or....
THINK AGAIN

From the Children, Parents,
Families and Teachers at
Mount Cook School



Honour Roll

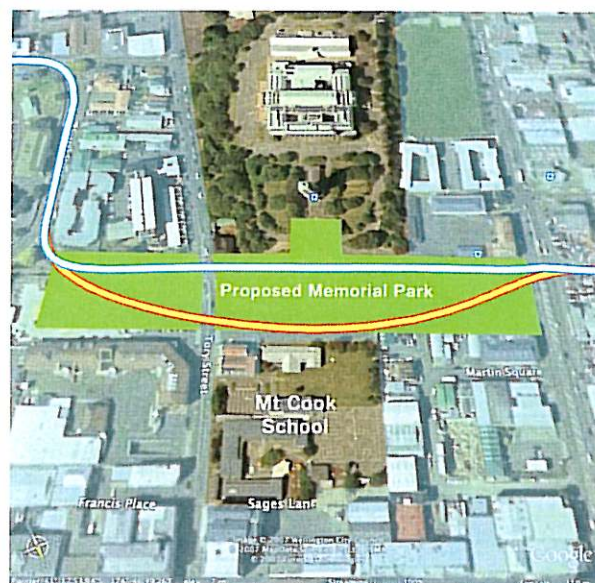


- The War Memorial is also part of Mount Cook School's heritage

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3

Proposed road and park



Why think again?

- Air Pollution
- Road Safety
- “Best outcome for users”
- Legal Issues
- Cost effectiveness



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5

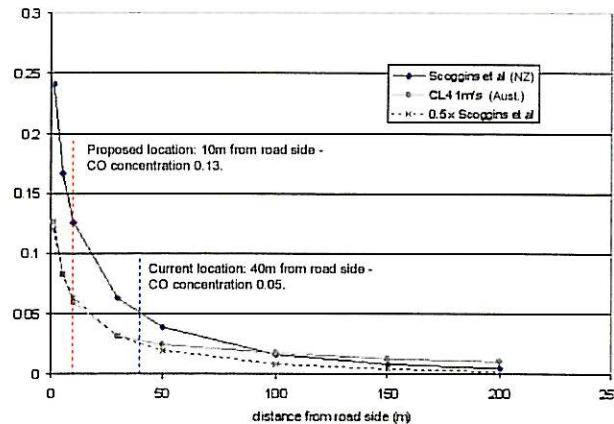
Air Pollution - Main Points

- Buckle Street is now State Highway 1
- Traffic volumes already increased (Note 1) and will continue to do so
- Reducing distance from school to road to 10m (concept drawings) will increase existing air pollution to 260% of current 40m levels (Note 2)
- Multiple studies show serious adverse health effects from increased traffic emission exposure (Note 3)
- Many Mt Cook School children in higher risk groups for poor health outcomes: moving road closer will “*Increase Inequalities*” (Note 4)
- No feasible mitigation options for traffic emissions -other than leaving road where it is (Note 5)

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6

Carbon monoxide concentrations at various distances from a carriageway edge, using three different approaches



*...the calculation for any gaseous pollutant is made using the following relationship:

$$\text{Maximum concentration over period } T (\mu\text{g}/\text{m}^3) = 0.325 \exp(-0.3 d^{0.5}) \times (N/T) \times EF$$

where:

d = distance from roadside in metres

N = number of vehicles in the period T

T = time period assessed (one to 24 hours)

EF = emission factor in g/km^2

Source: Good Practice Guide on Assessing Discharges to Air from Land Transport, NZ Ministry for the Environment.

6/28/2007

7

Traffic emissions: child health effects

- Health effects from traffic emissions are cumulative ¹
- Children's health improves when traffic emissions are reduced ²⁻⁴
- Higher traffic emission exposure is associated with poorer child health ⁵⁻¹⁵
- Adverse health effects include:
 - Respiratory:
 - asthma^{9 11 12 16 17}, bronchitis⁸, bronchiolitis⁸, rhinitis⁸, acute respiratory infection¹³, decreased lung function¹⁰, wheeze¹⁸, and **permanent, life shortening lung damage**.¹⁵ Effects are worse in children with existing asthma and bronchial hyperresponsiveness.²³
 - Other:
 - otitis media (middle ear infections)¹⁹; and
 - childhood cancer²⁰, including leukaemia (due to benzene exposure).^{21 22}
- (And that's only references A-G... see Note 3)

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8

Air pollution & inequalities

- Mt Cook School:
Ethnic composition

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New Zealand European/Pakeha	27%
African	27%
Maori	17%
Samoan	10%
Asian	10%
Other ethnic groups	9%
- Existing research shows strong health outcome disparities by socio-economic status and ethnic group
- Increasing air pollution at Mt Cook School will increase health inequalities, conflicting with the whole of government goal of "Reducing Inequalities" (Note 4)
- N.B. Two California studies found traffic emission levels in schools increase with higher percentages of Hispanic and African-American students, and low socio-economic indicators. This is not a model New Zealand should be emulating.

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9

Mitigation Options

- Erroneous belief = trees or other physical barriers can reduce adverse impacts of traffic emissions. **THEY DO NOT.**
- **Any park design that does not move Buckle St/State Highway 1 closer to Mount Cook School**
- Restricting traffic flows, in particular diesel vehicles (unfeasible due to economic effects?); or
- A traffic tunnel with exhaust outlets away from the school (unfeasible due to cost?)
- No other relevant mitigation options (Note 5)

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10

Traffic Safety

- Inherent to Mt Cook School Culture
- Another bottom line



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11

Traffic Safety...

- Main traffic intersection comes closer to school entrance
- Significant safety concerns now at Buckle/Tory St intersection - reported to and acknowledged by Council
- Remain unaddressed
- Bridge would safely resolve

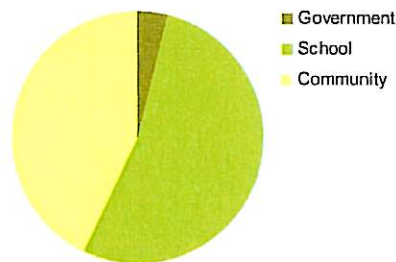
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12

Memorial Park – who will use it?

- Focus should weight community & school highly AND facilitate government official use

- Govt-official use = 1-12 days pa
- School use = up to 200 days pa
- Community use = 365 days pa



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13

Legal Issues

- Mount Cook School currently investigating its legal options

Other considerations (Note 6)

- NZ Bill of Rights Act 1990, s8. Right not to be deprived of life
- UNCSEC: States Parties recognize right to highest possible standard of physical health; healthy development of the child
- UNCROC: In all actions... the best interests of the child shall be the primary consideration

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14

Wise use of money

- Moving Buckle St is expensive.
- Trenching Buckle St in its current location is prohibitively expensive.
- A “City to Sea” type bridge is the most sensible and financially prudent option of these three.

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15

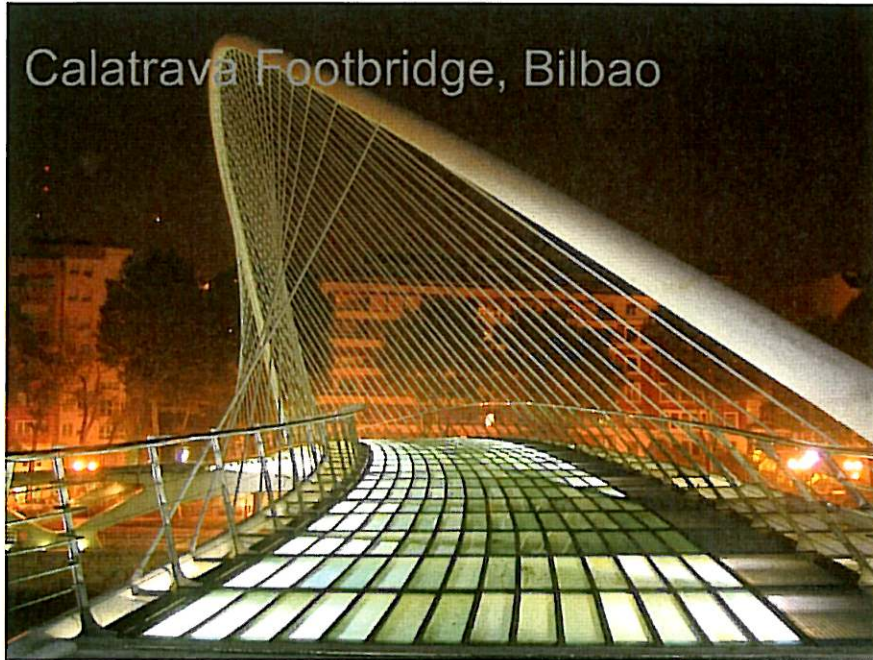
THINK AGAIN

- Great opportunity
- We all want a great park/community resource
- This can be done exceptionally well
- For lower cost
- Without more air pollution
- With increased traffic safety
- What’s the rush? Do it once, do it right!

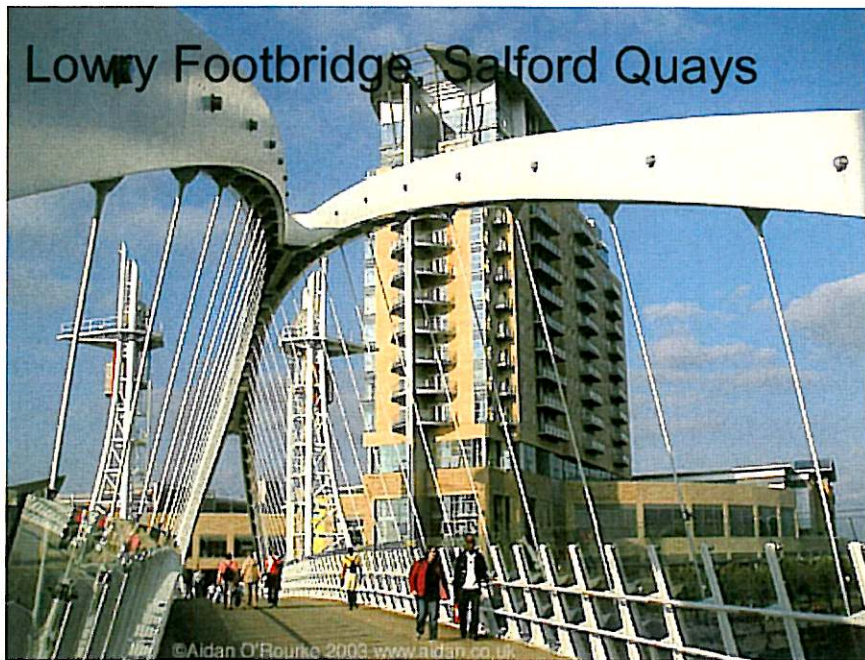
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16

Calatrava Footbridge, Bilbao



Lowry Footbridge, Salford Quays



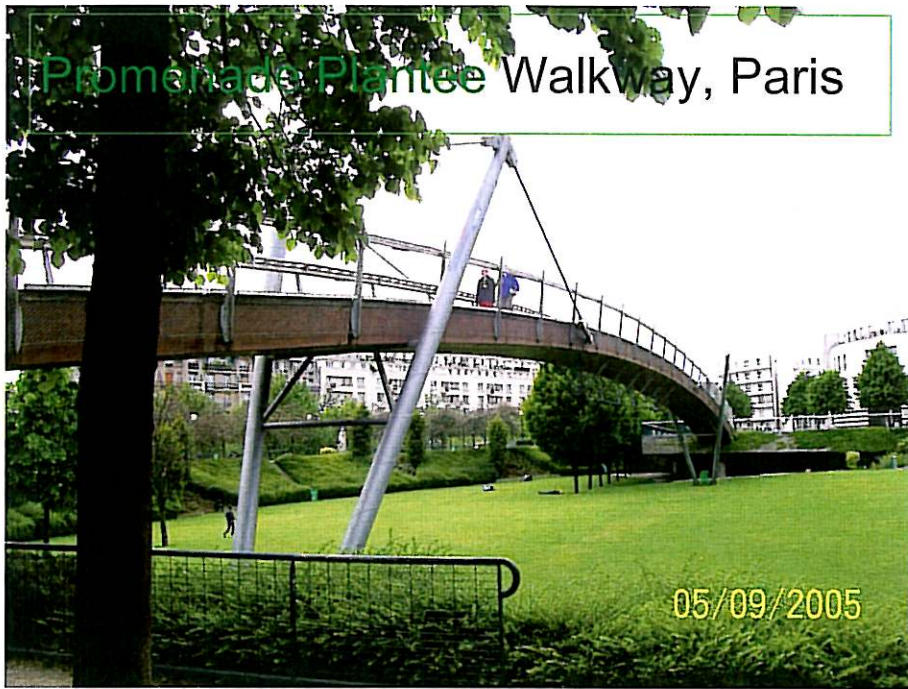
Yarra Footbridge, Melbourne



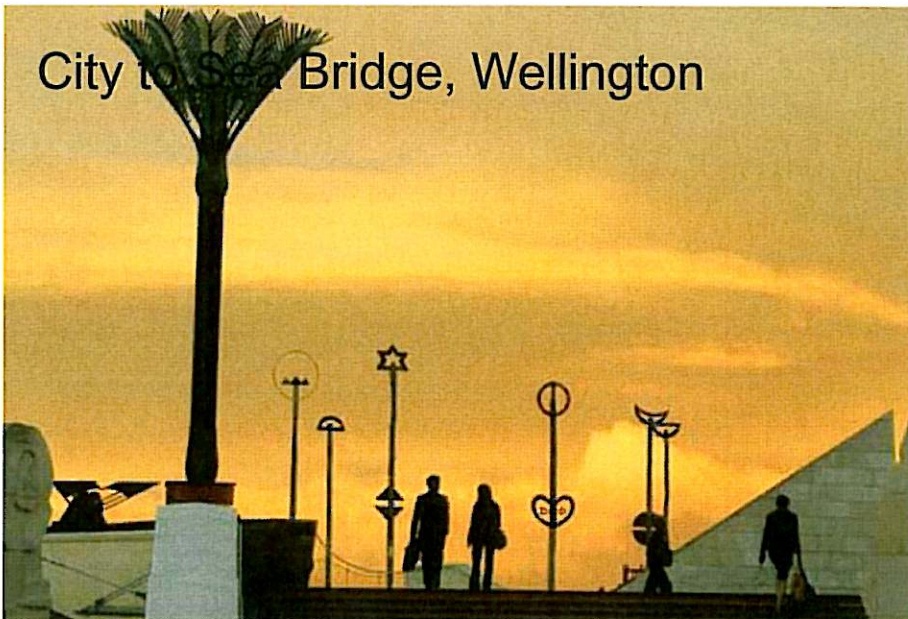
Gehry Footbridge, Chicago



Promenade Plantee Walkway, Paris



City to Sea Bridge, Wellington



6/20/2007

22