

Developing and Implementing Local Speed Management Plans

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VIASTRADA

Presentation Outline

- Effect of Speed on Safety
- Speed Management Plan process
 - NZTA speed/risk data maps
 - Speed implementation options
 - Keys to limiting vehicle speed
 - Common Concerns with lower speeds

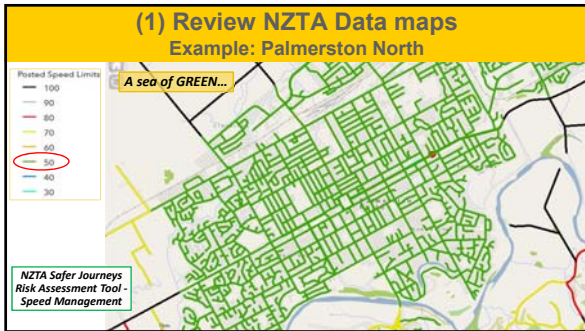
Speed in New Zealand

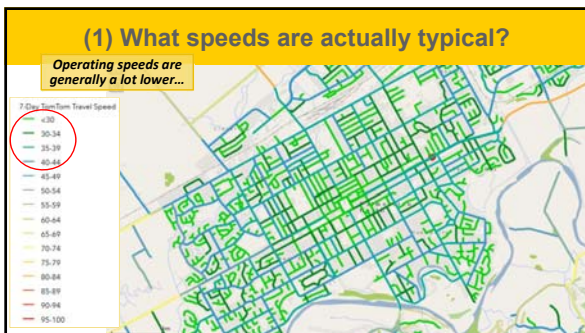
- Speed is a major factor in crash occurrence & severity
 - Illegal speed over speed limit
 - Inappropriate speed for conditions
- 2014-16 in NZ (MoT crash stats)
 - 16% of **minor** injury crashes had a speed factor
 - 21% of **serious** injury crashes had a speed factor
 - 29% of **fatal** crashes had a speed factor

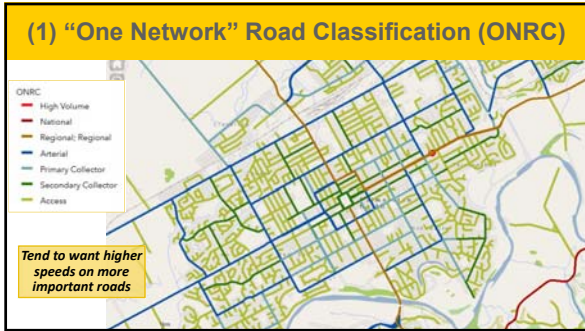
On par with drink-driving as our biggest road safety problem

Speed Management Plan: Step by Step

- Suggested steps for developing a strategy plan:
 - Review existing NZTA maps/data, identify preliminary proposed treatments
 - Consider additional local information (strategies, feedback, etc) for each site
 - Optional: Undertake community research to gauge opinions on road risk (incl. speed)
 - Identify the most suitable management option(s) for each road section
 - Determine appropriate treatments to implement the desired management options (signage, markings, physical works, etc) and estimate likely costs
 - Develop a prioritisation plan for the work to inform 2018-21 LTP & beyond
 - Present the proposed management and implementation plan to Council and the public, together with relevant supporting information
 - Revise the plan based on feedback received from Council / stakeholders
 - Programme and implement projects, and continue to monitor results









(2) "Local calibration" of NZTA speed data

- May be other factors not captured by this data that influence the decision to adjust a speed limit, e.g.
 - Improvement in **amenity** for adjacent local residents & businesses
 - Encouragement of more **walking and cycling**
 - Alignment with local area **strategies or corridor plans**
 - Coordination with **existing** planned programme works
 - **Local support** (or otherwise) by communities for speed changes
 - Harmonisation of **adjacent road sections** to provide consistency

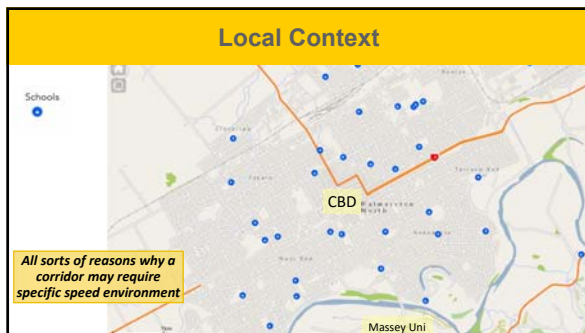
Initial recommendations from NZTA need to be "sense tested" and adjusted to reflect these factors

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(optional) Undertake community research to gauge opinions

- Cover road risk in general (incl. speed) and other impacts
 - e.g. Hamilton CC:
 - "Q: Safer Speed Areas help prevent people being injured or killed on local roads."

Response	Percentage
Strongly disagree	~5%
Disagree	~10%
Neither agree nor disagree	~15%
Agree	~35%
Strongly agree	~35%

"Q: Safer Speeds are good for the local community"

Response	Percentage
Strongly disagree	~5%
Disagree	~15%
Neither agree nor disagree	~15%
Agree	~35%
Strongly agree	~30%

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(3) Suggested Speed Management Strategy

High Benefit Speed Management
 First Priority Interventions
 - Engineer Up
 - Challenging Conversations
 - Self Explaining - Reduce Speed Limit

(3) Identify Speed Management Options

	Engineering DOWN	NO Engineering	Engineering UP
Increase speed limit ↑		50 60	100 110
No speed change =	50	100	80
Decrease speed limit ↓	50 30	50 40 100 80	← Temporary until road improvements
Variable speed limit ↕	SCHOOL ZONE 30 50	70 100	

Some options may be challenging...

Good Speed Limit Practices

- Limit is appropriate to road function
 - High conflict areas may have lower limits
- Speed zones of adequate length
 - Avoid frequent changes of speed limit
- Clear and regular signposting
 - Esp. if not "self-explaining" road environment
- Don't apply to compensate for hazards
 - But could address deficiency in short term



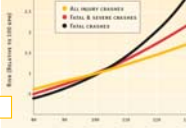
Is it the speed limit that needs changing?



"Lower posted speed limits alone won't change traffic speeds"

- For every 10 km/h posted speed limit reduction, typically we observe a **2-3 km/h** reduction in mean speeds

(NB: 1% speed reduction = -2% crashes & -4% fatalities)



Nilsson (2004)

- If need be, add some minor additional traffic management features to get the speeds down a bit more
 - e.g. remove centrelines on local streets, add central islands

(4) Key physical tools for lower speeds



Contributors to higher vehicle speeds

- Road **Length** – visual and physical
 - *Treatments: Have street sections < 250m, Limit forward sight distance (plantings, realignment)*
- Road **Width** – perceived and actual
 - *Treatments: Reduction in visual or actual width (kerbs extensions, plantings, wide lines), Pavement deflections (chicanes/islands)*
- Smooth **Surfaces**
 - *Treatments: Cobbled/tiled pavements, Vertical deflections (humps/platforms), Rumble strips*

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Effect of Geometry on Traffic Speeds

- Width and sight distance make a difference

TRL Report #661, DfT UK (2007)

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Effect of Road Markings on Speeds

Burdett & Nicholson (2010)

Relative Speed Frequencies on Rural Roads



(5) Prioritisation
Start with the 'Low Hanging Fruit'

- Suburban/CBD shopping streets
- Residential traffic calmed areas
- School zones
- Unsealed/winding/narrow rural roads

Consider a region-wide speed plan?

- Economies of scale
- Consistency of approach

(6) Public & political engagement



- Focus on **risk** – highlight safety record and relative severities
- Have **data!** Risk ratings, Speeds, Community concerns, etc
- Explain the **link** between speed and casualty rates
 - Lots of research, in NZ and overseas
- Demonstrate a **strategy** that considers all options
- Talk to **everyone** (residents, schools, active users, etc)
 - Not just motorists (AA, RTF, etc)
- Have ready answers to **pre-empt** the usual concerns
 - Such as...




“Won’t lowering speed limits greatly increase Travel Times?”

- Maybe a little, but most traffic delay is due...
 - Other **traffic** (local towns, interscetions)
 - Site** restrictions (curves, roadworks)

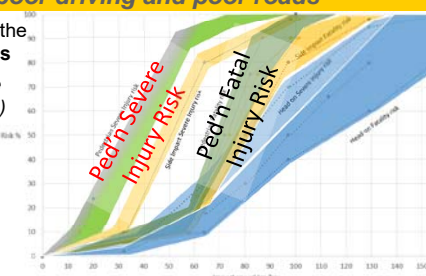
Typically few opportunities to reach max. speed
- You will gain more economic benefits from:
 - Safety** benefits of reduced speeds
 - Health** benefits of encouraging more active trpt
 - Retail** benefits from encouraging passing trade
 - Property Value** benefits due to more liveability

Trading a little mobility for vastly improved amenity

“It’s not speed that causes crashes, it’s poor driving and poor roads”

- Speed affects the **consequences** (it affects the likelihood too)



Scott & Mackie 2014

“The average speed is already well below the speed limit”

- So reinforce that with an **enforceable** speed limit!



Also sends a clear encouraging message to those who wish to walk or cycle

Auckland

(7) Consultation feedback from stakeholders

WHO are you asking?



These guys...

...or these guys?



Summary: Speed Management Plan process

- Suggested steps for developing a strategy plan:
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Conclusions

- Speed continues to be a problem in NZ
 - Driver speed greatly affected by road environment
 - Inappropriate speed limits for the conditions
- Setting speed limits easier now in NZ
 - But required network review/consultation process still takes work
- Lower speed limits (+ traffic calming) still under-used in NZ
 - Plenty of "low hanging fruit"


*Do we fit the speed limit to the road
or fit the road to the speed limit?*

Thank You!

- Any Questions?

*Dominion Post,
11 Feb 2015*

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