

Incremental light rail planning

Argumentations, approaches and projects

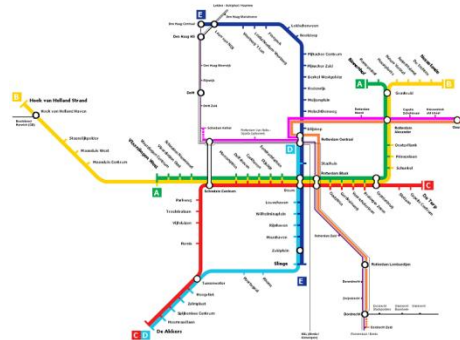
Dr. Rob van der Bijl
RVDB – Urban Planning & Lightrail.nl
Amsterdam, Netherlands

Bergen, Norway, April 2017



Independent urban planner (since 1987)

Station Maashaven, RET, Rotterdam 1992-1996



Independent urban planner (since 1987)



www.lightrail.nl/bicycles



Dutch Cycling Embassy

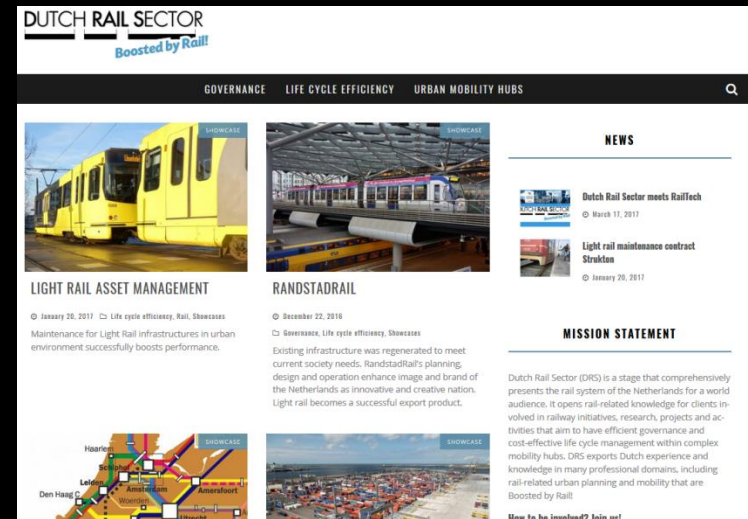
> www.dutchcycling.nl
> info@dutchcycling.nl



Dutch Rail Sector

Dutch Rail Export (2013-...)
Showcases, pilots, projects

Light rail
Station environments
Rail maintenance
And more ...



www.dutchrailsector.com



Rob van der Bijl
Bergen, Norway, April 2017

Incremental light rail planning
Approaches and examples



Dutch Rail Sector

Dutch Rail Export (2013-...)
Showcase light rail
RandstadRail

Boosting public transport
Transit Oriented Development
Iconic viaduct in The Hague



RANDSTADRAIL

📅 December 22, 2016 📁 Governance, Life cycle efficiency, Showcases

Trigger

Existing infrastructure was regenerated to meet current society needs. RandstadRail's planning, design and operation enhance image and brand of the Netherlands as innovative and creative nation. Light rail becomes a successful export product.

Prime domain(s)

Rail, Planning

Prime theme(s)

Sensitivity for governance, Lifecycle efficiency

Additional theme(s)

Users & Services, Design & Identity

Related showcases

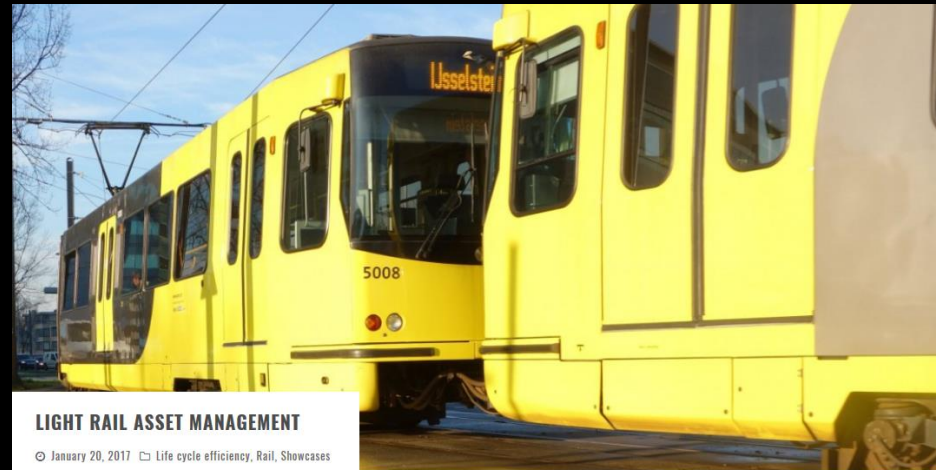
Rotterdam Centraal, Den Haag Centraal, Stedenbaan, Butterfly



Dutch Rail Sector

Dutch Rail Export (2013-...)
Showcase light rail
Maintenance Utrecht assets

Keeping availability & reliability
Maintaining safety levels
Optimising life-cycle costs



Trigger

Maintenance for Light Rail infrastructures in urban environment successfully boosts performance.

Prime domain(s)

Rail

Prime theme(s)

Lifecycle efficiency

Additional theme(s)

Economics



Dutch Rail Sector

Dutch Rail Export (2013-...)

Pilot light rail
Indonesia

Various cities (e.g. Surabaya)
Dutch knowledge/experiences
Input for planning processes



SELAMAT DATANG DI
BADAN PERENCANAAN
PEMBANGUNAN KOTA SURABAYA

LIGHT RAIL INDONESIA
© June 9, 2016 □ Pilots, Rail, Urban mobility hubs

Trigger	Light rail is considered in many Indonesian cities (e.g. Jakarta, Surabaya). Dutch knowledge and experiences are to be plugged in upcoming planning processes.
Prime domain(s)	Rail
Prime theme(s)	Urban mobility hubs
Additional theme(s)	Users & Services, Design & Identity



Dutch Rail Sector

Dutch Rail Export (2013-...)

Pilot (light) rail - bicycle

Taiwan

Cycling connected to stations

Hubs and urban hot spots

Workshop Kaohsiung



DUTCH TRAIN CYCLING SYSTEM

March 22, 2016 Governance, Pilots, Urban mobility hubs

Trigger

Cycling is connected in various ways to the train at urban mobility hubs and most other stations, including some urban hot spots.

Prime domain(s)

Rail, Mobility, Planning

Prime theme(s)

Sensitivity for governance, Urban mobility hubs

Additional theme(s)

Users & Services, Sustainability, Design & Identity



Our book

Lessons from 61 light rail projects (2017)

Published by Elsevier

Based on Dutch original

www.lightrail.nl/61xlightrail/

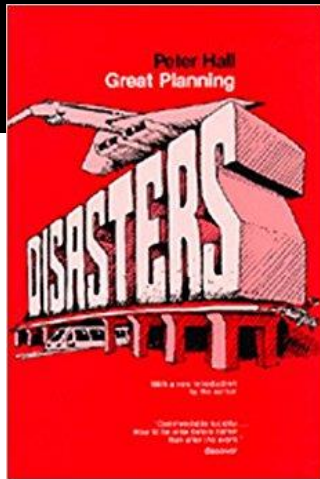


Some projects

Sintropher (2008-2014)

Various tramway projects in Europe

Valenciennes
Blackpool
Nijmegen-Kleve
And more



Lille, 2009



Some projects

Aruba

One Happy Island

Arutram (Aruba, 2009-2012)

Small tramway project

Upgrading downtown
Iconic and green
Though wrong vehicles

Oranjestad, 2012



Some projects

RandstadRail (NL, 1986-2006) Regional-urban light rail project

'Tram-train'
Two systems!

A very long history!



Some projects

Utrecht Uithoflijn (NL, 2007-...,) Regional-urban light rail project

Under construction
Phase 1: opening 2018

Involved in many ways:

- . project organisation (2007-2008)
- . argumentation phase 2 (2017)



Some projects

Groningen RegioTram (NL, 1995 / 2002-2012 / 2013)

Phase 1:
Urban tram system (2 lines)

Investment: 300 million euro

Contract: DBFMO+

Planning: 2002-2010

Tendering: 2010 -2012

Killed: 2012

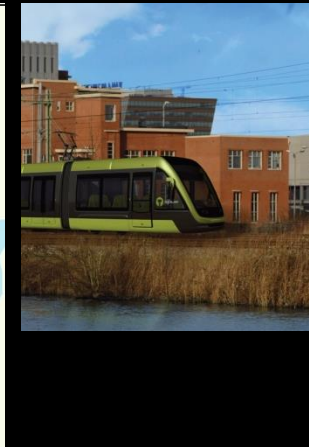
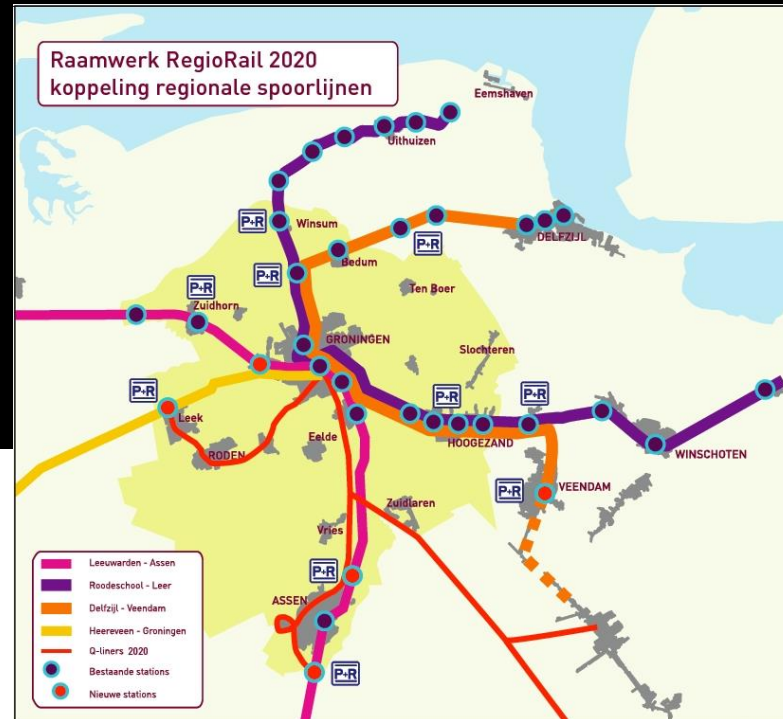


Some projects

Groningen RegioTram (NL, 1995 / 2002-2012 / 2013)

Phase 2:
Regional tram-train system

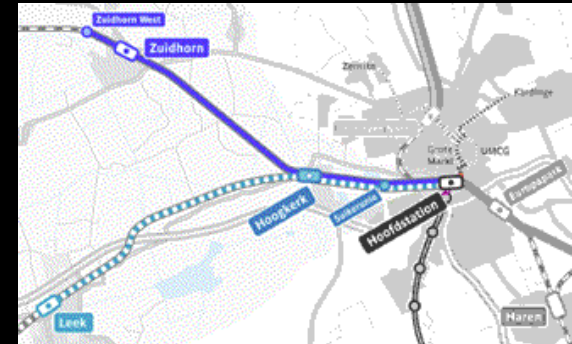
Also cancelled (2012).



Some projects

Groningen RegioTram (NL, 1995 / 2002-2012 / 2013)

A second life?
Regional starter system
Study (2013)
Eventually not successful
No political support

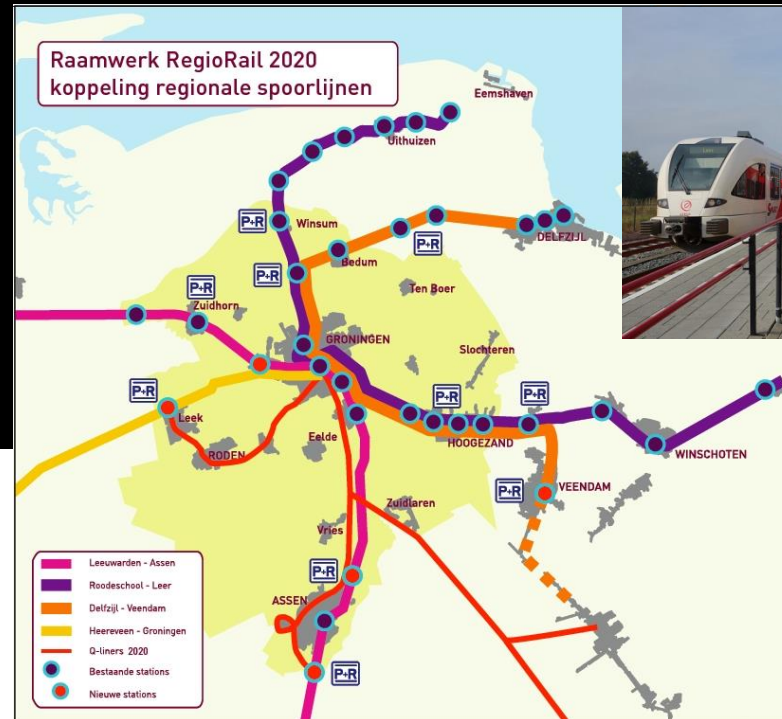
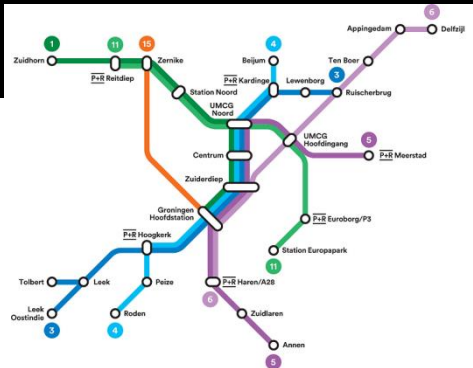


Some projects

Groningen RegioRail (NL, 1999 / 2005-2020)

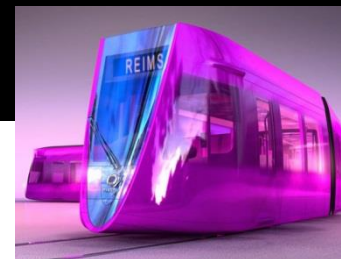
Regional train system
Additional bus system

In operation
In planning
Under construction



Why light rail? Why public transport?

Comprehensive argumentation!



Why light rail? Why public transport?

Effective mobility (1/5)

Good transport:

=Meeting demand

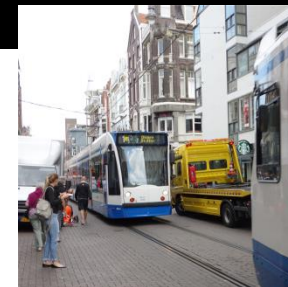
=Optimizing operational costs

= ...

=Use of (public) space

= ...

=Traffic design and planning



Why light rail? Why public transport?

Efficient city (2/5)

All kinds of opportunities ...

And (indirect!) impacts:

=Quality of the city

= ...

=Livability

=Safety

=Image & perception of the city

=Urban planning & design

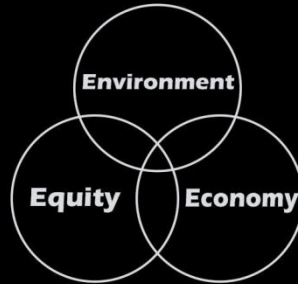


Why light rail? Why public transport?

Economy (3/5)

Effects and tools:

- =Land value
- =Real estate value
- =Retail turnover & quality
- =Inward investments
- =Employment
- =Property development
- =...



Rails to Real Estate Development Patterns along Three New Transit Lines



CTOD CENTER FOR
TRANSIT-ORIENTED
DEVELOPMENT

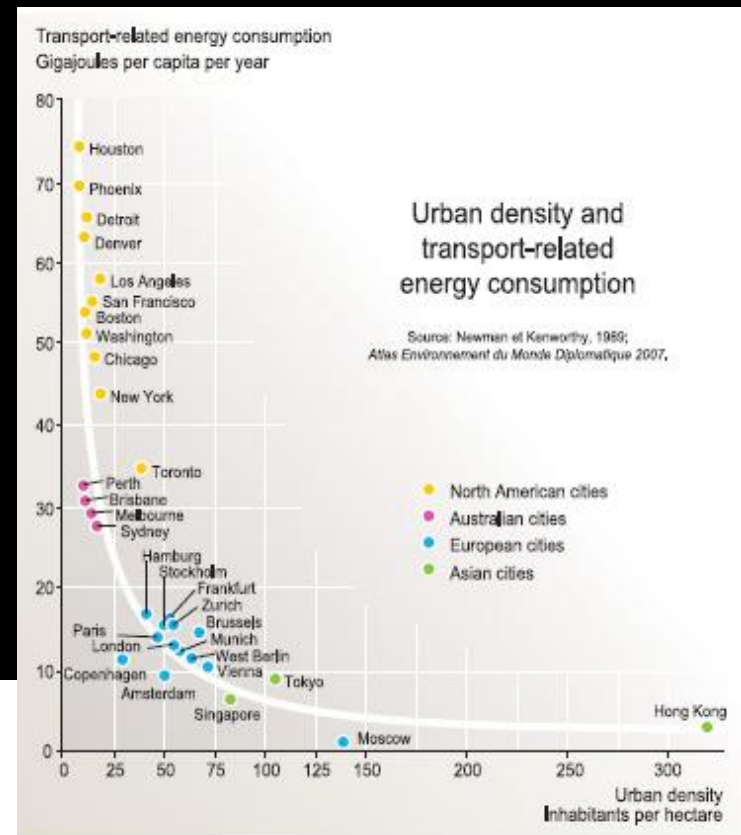
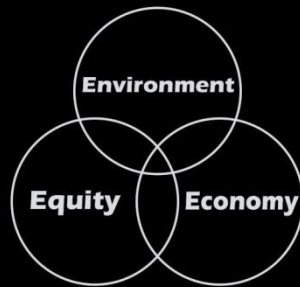
Hiawatha Line (Minneapolis-St. Paul), Southeast Corridor (Denver), Blue Line (Charlotte)

"All three transit lines experienced a tremendous amount of new development. Charlotte's Blue Line had the most development, with approximately 9.8 million square feet of new space between 2005 and 2009."

Why light rail? Why public transport?

Environment (4/5)

More efficient regarding:
=Energy consumption
=COx emissions
= ...
=Land use



Why light rail? Why public transport?

Equity (5/5)

Social access & connection:

=contra-segregation

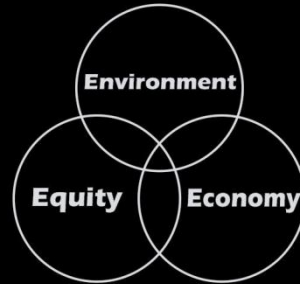
=social mobility

= ...

=Empowerment

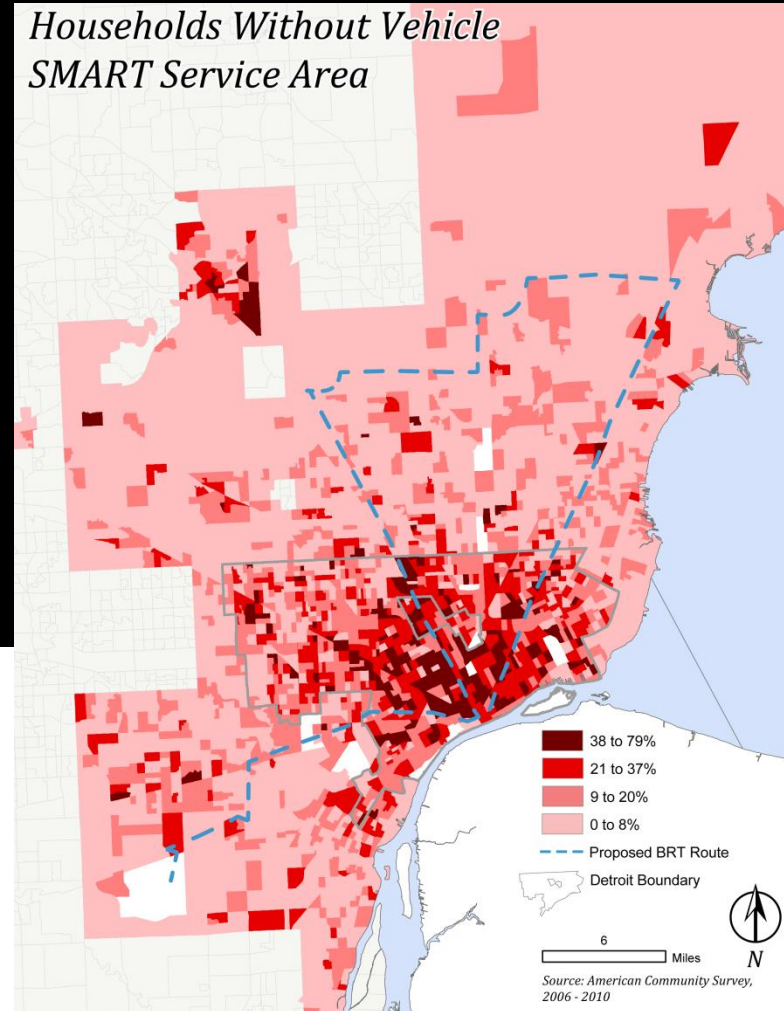
=Case study: Detroit

=Historic case: LA, Watts



Detroit

LA, Watts



Red Car on last day of service
Los Angeles - Long Beach
April 9, 1961



Los Angeles Riots
Watts, 103rd Street
August 1965 - 1966

Why light rail? Why public transport?

Comprehensive argumentation: part 2!

- =personal & public safety
- =legibility
- =affordability
- =accessibility
- =reliability
- =speed
- =comfort

Transport Poverty

Our project (2016-2018) entails 4 case studies assigned by the four big cities

Amsterdam, Rotterdam, The Hague, Utrecht



FAVAS'NET

www.favas.net

What is a project?

Initiative is no project

An example:
Nijmegen-Kleve (Sintropher) was basically:
a feasibility study, not yet a project.

Without clear political support.
And no efficient focus.

Niederländer wollen Light-Rail-Verbindung nach Düsseldorf

KLEVE/NIJMEGEN „Nicht mehr rentabel“ war die Begründung für die Schließung der Bahnstrecke zwischen Kleve und Nijmegen (Nimwegen) im Jahr 1991. Heute denkt man jenseits der Grenze anders. Die Stadt Kleve ist davon nicht überzeugt und bevorzugt eine Schnellbusverbindung.

Niederländer, die in Kleve einkaufen – vor allem Waschmittel, Hygieneartikel sowie Kleidung und Lebensmittel – sind bei Kleves Einzelhändlern gern gesehen. Gern kombinieren unsere Nachbarn den Einkauf mit einem Kurzflug.

Hauptsächlich kommen die Besucherströme aus dem benachbarten Nijmegen – notwendiger Weise mit dem Auto. Eine Busverbindung gibt es zwar, an den traditionell stark für Ein-

käufe genutzten Samstagen verkehren die Busse aus Sicht der Niederländer allerdings zu selten.

Die Stadt Kleve macht sich derzeit stark für eine Verbesserung der Busverbindung. Diesbezüglich ist aus den Niederlanden Kritik zu hören. Die Begründung: Der Autoverkehr habe in den Jahren nach der Schließung der Bahnstrecke Kleve-Nijmegen stark zugenommen, weswegen die Busse nicht zügig vorwärtskommen. In ei-



Vom Bahnhof Nijmegen aus verkehren bereits Light-Rail-Züge. Tun sie das bald auch wieder in Richtung Kleve?

nem Statement des Vorsitzenden der „Vereinigung für Innovativen Euregionalen Schienentransport“ (VIEV), Marcel Walraven, heißt es: „Der Bus ist als Verkehrsmittel nicht in der Lage, die große Anzahl Menschen, die an der Universität (Heyendaal) arbeiten und stu-

dieren, zu befördern. Folglich nimmt der Individualverkehr zu, und die Straßen verstopfen, so dass der Bus nicht mehr durchkommt.“ Damit spielt Walraven darauf an, dass Alternativen für den zunehmenden Grenzpendelverkehr fehlen. Erwartet wird, dass sich der Trend



What is a project?

Project's basic characteristics

- =Obvious scope
- =Plan and strategy ('Plan B' available!)
- =Citizens involvement
- =Mature design/engineering
- =Sound political decisions and stakeholder involvement
- =Funding decision
- =Stakeholder management
- =Availability of long term view



All those failed projects!

Too many unfortunately. Some examples (alphabetically):

Aachen (twice!), Bristol, Hamburg (twice!), Groningen, La Réunion, Kiel, Leiden (RijnGouwelijn), Luxembourg (2004), Leeds, Liverpool, London (2 schemes), Reims (1995), South Hampshire, Stavanger, Utrecht (1995), Zwolle-Kampen, ... (and more)

Also projects which encountered severe setbacks: Dublin, Edinburgh, Jerusalem, Paris (T1), Stockholm (Spårväg City), Saarbrücken, Tel Aviv ... (and more)

Campusbahn,
Aachen, Germany



Reasons for failure & Risk assessment

Main reasons and risks to be discussed traditionally, and fundamentally (part 1):

Scope, interfaces, content, design/engineering, technology, safety.
Financing, funding, business case
Justification (transport, economy, ..., cost-benefits)
Decision-making politics and administration
Stakeholder involvement
Citizens involvement

RegioTram Groningen
Netherlands



Reasons for failure & Risk assessment

Main reasons and risks to be discussed traditionally, and fundamentally (part 2):

Planning and (project-)organisation
Tendering, contracting
Construction, operation

Technocratic attitude

Conceiving the planning process as a rational process

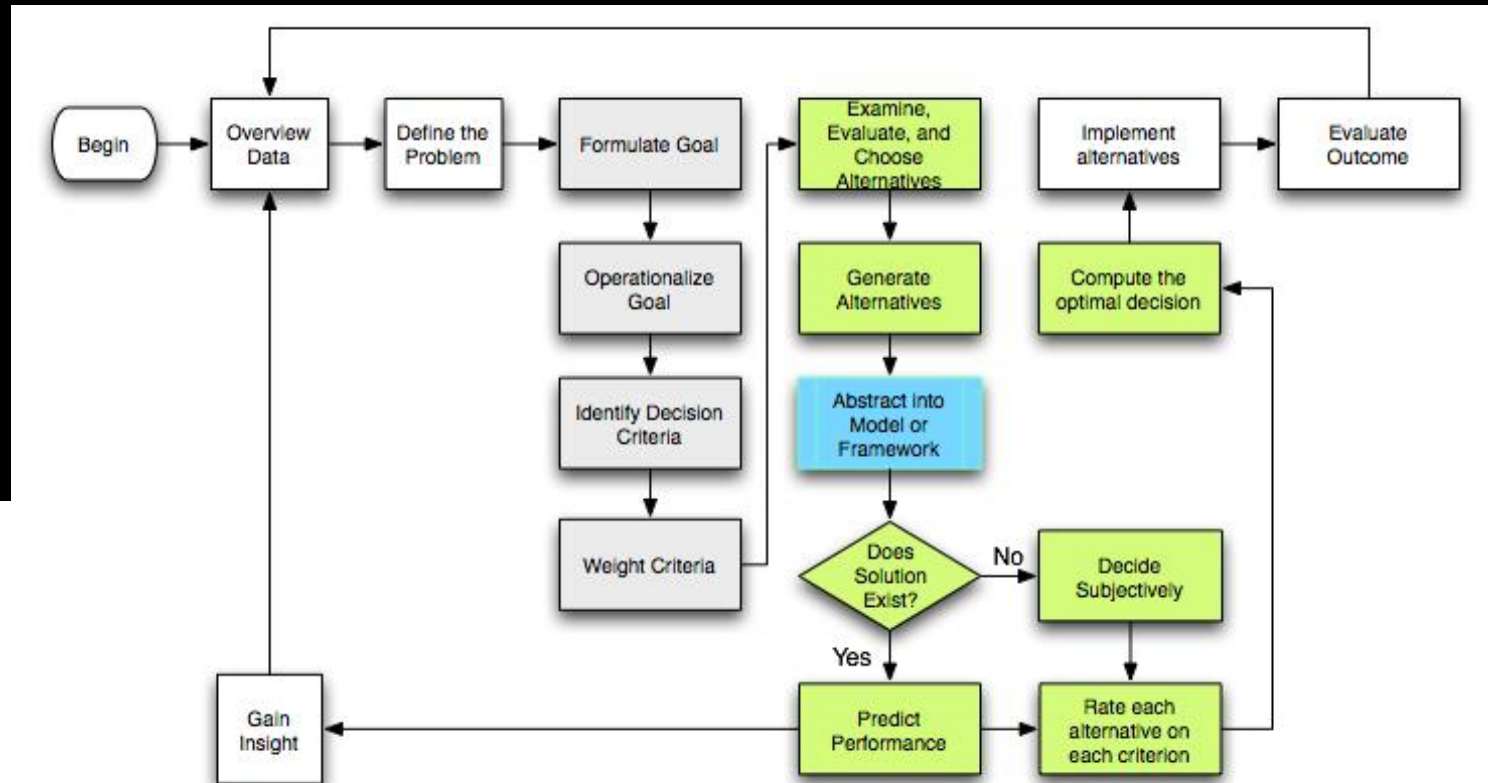
Project focus & context (place, social, time)



**RegioTram Groningen
Netherlands**

Reasons for failure & Risk assessment

Illusion of total control: believe in rational planning



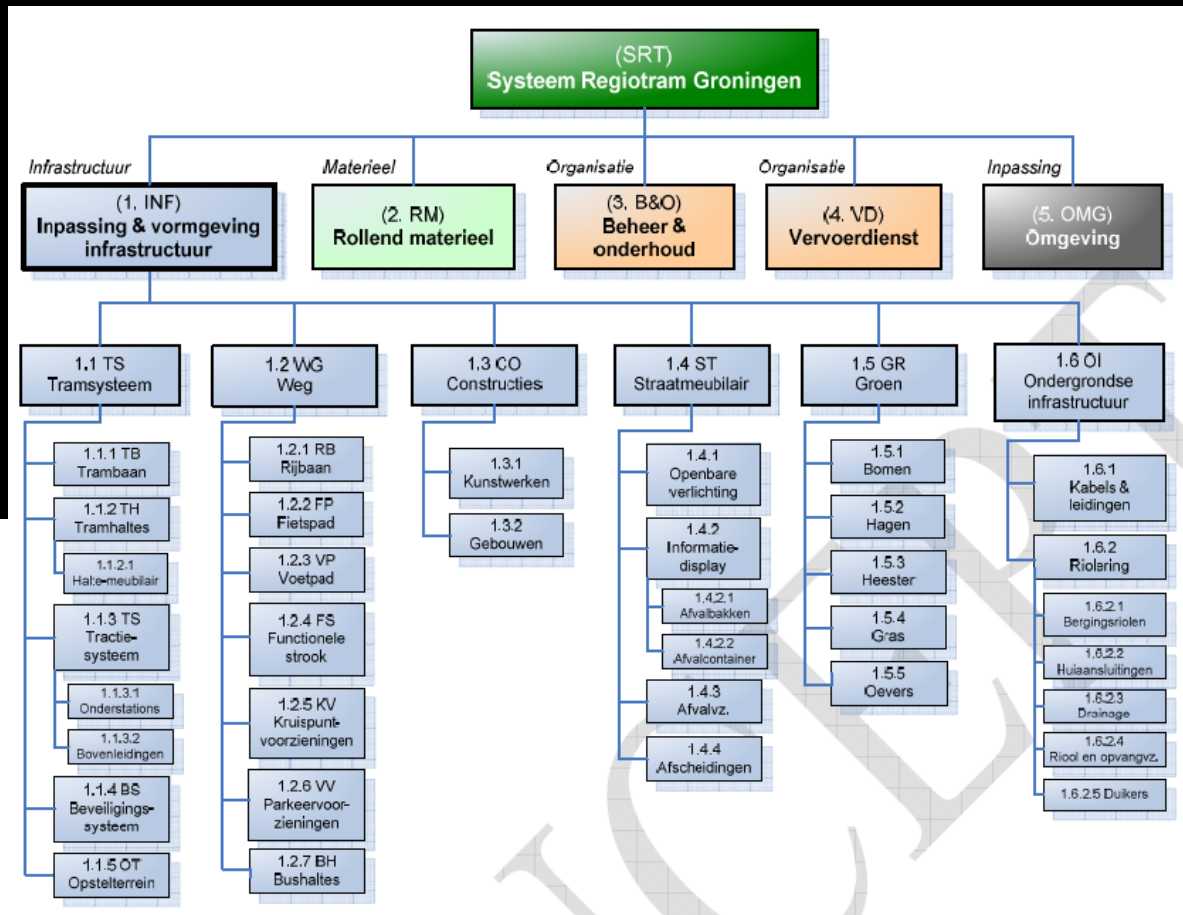
Reasons for failure & Risk assessment

Illusion of total control: technocratic contracting



Reasons for failure & Risk assessment

Illusion of total control: example DBFMO+ RegioTram Groningen



Towards a new approach of light rail projects

Once all reasons and risks have been determined still the question remains how to deal with them!

Some of my ideas on a new approach (part 1):

Focus on 'why' (not primarily on 'how' and 'what')

Accept and apply incremental planning

Keep it simple! (short term scope minimisation, proven technologies, ...)

Project chopping

Create 'faits accomplis'

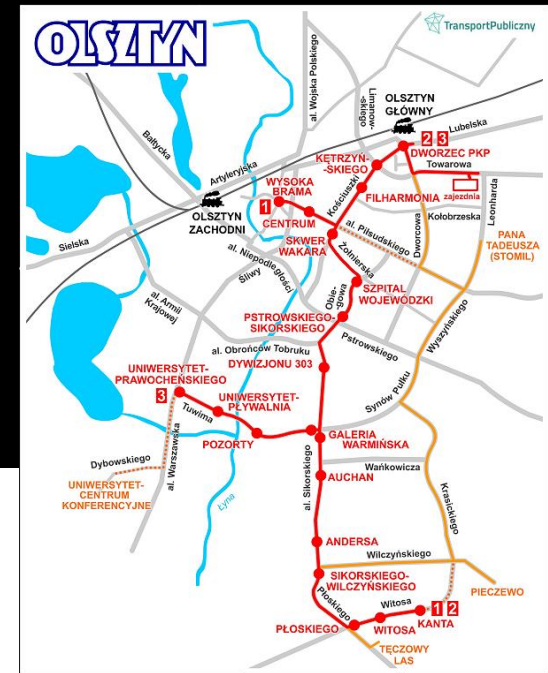
Utrecht Uithoflijn
Netherlands



Towards a new approach of light rail projects

Once all reasons and risks have been determined still the question remains how to deal with them!
Some of my ideas on a new approach (part 2):

Socially involved project management
Unconventional approach towards politics and administration
Opportunistic stakeholder management
Elaborate and manage project 'rind' (context, future)



Olsztyn, Poland, Tramwaje. Our 'mirror-case' for Groningen RegioTram.
Eventually the tramway project of Olsztyn has been successful due to a pragmatic and flexible approach.

Towards a new approach of light rail projects

Example: Mulhouse – a better 'why'

L'observatoire 2005 du PDU
Disponible en ligne, il fait un
bilan de l'avancée de chacune des 44
actions du PDU. L'observatoire
présente également un bilan de la
qualité de l'air et des accidents dans
l'agglomération. ► www.sitram.net

tout savoir sur le tramway
x vous présente l'ensemble
projet (les lignes, les
es, les artistes...) et vous
ène jusqu'à l'inauguration
mai 2006.
www.tram-train.net



Les aménagements
cyclables vont se multiplier

SE DEPLACER AUTREMENT

Vélo

326 kilomètres pour les cyclistes

La Camsa vient d'approuver son schéma directeur cyclable : tant mieux, car les habitants de l'agglomération sont nombreux à réclamer plus de pistes pour les cyclistes. C'est du moins ce qui ressort de l'enquête publique sur le PDU. Cadre de référence, ce schéma directeur prévoit à terme 231km d'itinéraires cyclables en plus des 95km déjà existants.

Mot d'ordre : la continuité

Plusieurs principes soutiennent la démarche, et notamment la notion d'itinéraire, afin d'assurer une continuité sur l'ensemble du territoire grâce à un « maillage » complet. Les tracés se feront dès que possible le long des grands axes de l'agglomération pour répondre à la

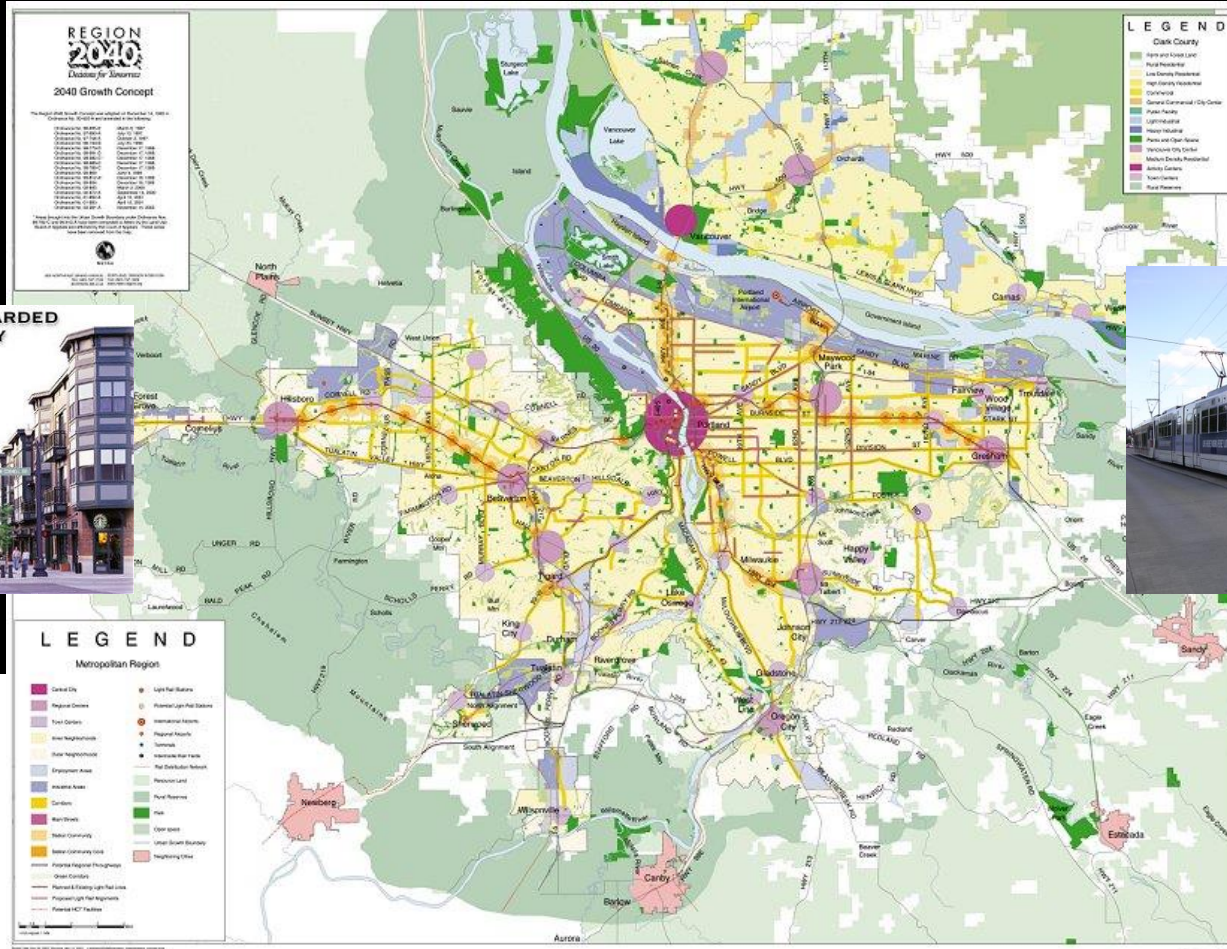
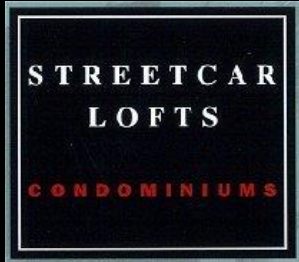
plupart des besoins de déplacement. Plusieurs niveaux d'itinéraires seront réalisés : les itinéraires structurant le territoire en reliant les communes et les lieux les plus fréquentés ; les itinéraires interquartiers ; les itinéraires intercommunes, répondant aux besoins de déplacement de courte distance ; les itinéraires de proximité, desservant la desserte locale d'habitation.

La mise en place s'effectuera à l'occasion d'opérations d'urbanisme ou de travaux de voirie. Les communes de la Camsa, du Pays et du Sitram seront partenaires. Les itinéraires traversant l'ensemble du territoire seront réalisés en priorité.

► Actions 24 25

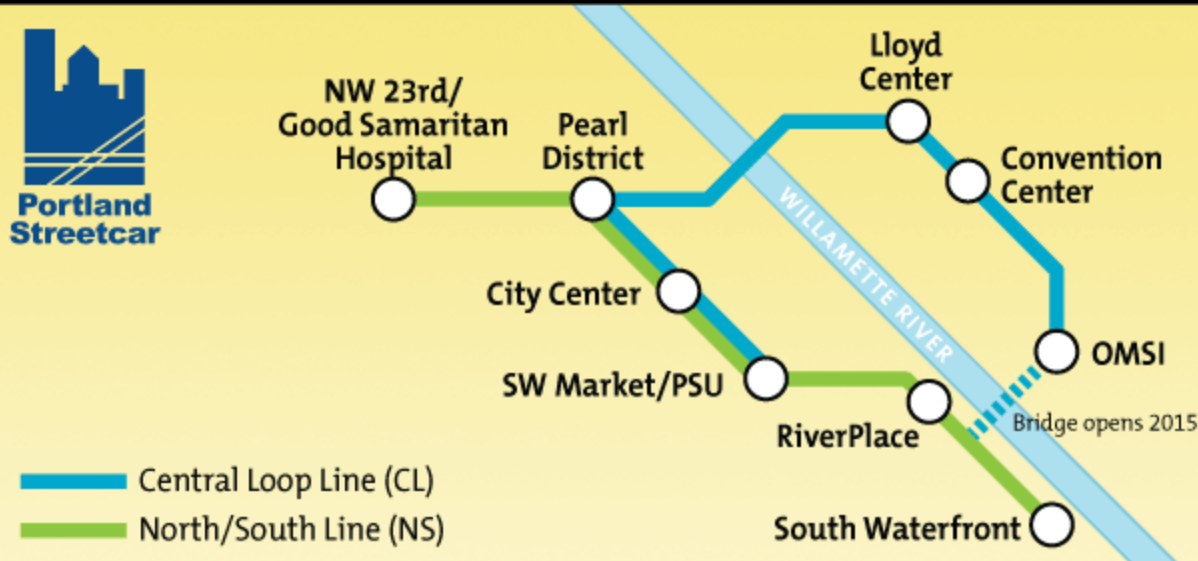


Towards a new approach of light rail projects



Example: Portland OregonMulhouse – the best ‘why’

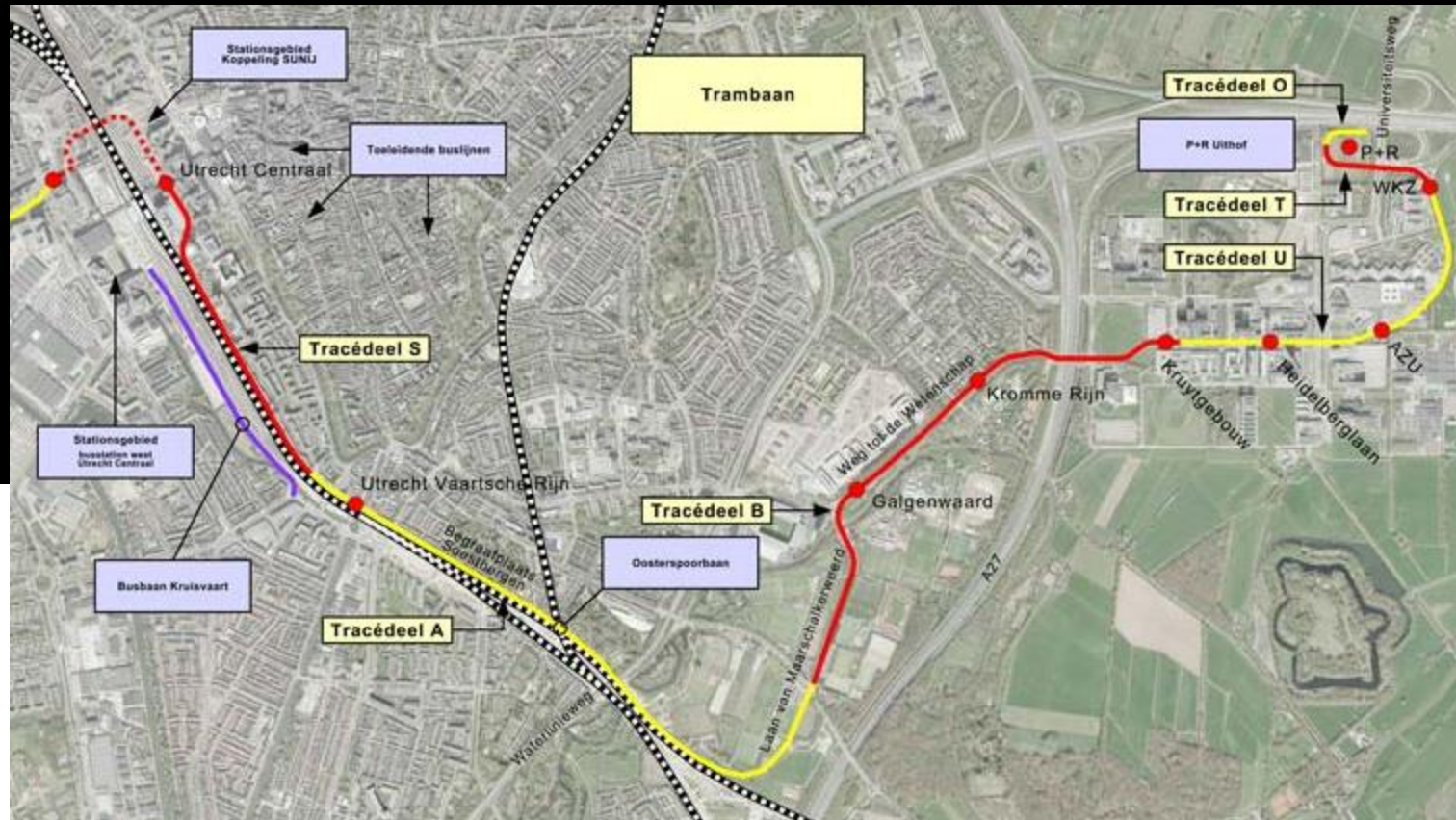
Towards a new approach of light rail projects



Portland also good example of:
Socially involved project management
Unconventional approach towards politics and administration
Elaborating project's future plus wider context AND: ...
... Smart phasing!

Towards a new approach of light rail projects

Example: Utrecht – some incremental planning



Towards a new approach of light rail projects

Example: Aruba – a very simple project



Towards a new approach of light rail projects

Example: Alicante - chopping or smart phasing



Towards a new approach of light rail projects

Example: “Tijuana Trolley” San Diego (1981) - an irreversible fact



Discussion & Questions



RVDB

Urban Planning – www.lightrail.nl/rvdb



LRNL

Lightrail.nl – www.lightrail.nl



DRS

Dutch Rail Sector – www.dutchrailsector.com



Fava

Urban Transformations by Natural Growth – www.favas.net

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