SOUTH AFRICA ROAD FEDERATION

Non-Motorised Transport Practitioner's Course

12 NOVEMBER 2020

Session 7: Case study: Developing a Bicycle Master Plan

SARF
founded in 1950

Session 5: Pedestrian and Cycle master plans

Terminology

How to develop a Bicycle Master Plan

Case studies of Bicycle Master Plans

Terminology

- The Bicycle Master Plan presents *a comprehensive review of the many policies, procedures, and practices that affect bicycling*. Unfortunately, aside from a handful of outstanding exceptions, many of these plans have not been implemented *(Creating a RoadMap for Producing & Implementing a Bicycle Master Plan - Peter Lagerwey, 2009.*
- A Bicycle Master Plan (BMP) is a document that describes *long-range planning for developing bicycle infrastructure in a city, with emphasis on designating and expanding bike routes, fostering a safe environment for cycling, and promoting bicycling as a viable transportation option*. A BMP usually details bike routes in the city, connecting bike lanes to create continuous, safe bicycling routes *(Wikipedia).*

Why a Bicycle Master Plan?

“A bicycle-friendly city is a city with more space, less noise, cleaner air, healthier citizens and a better economy. It’s a city that is a nicer place to be in and where individuals have a higher quality of life. Where accessibility is high and there is a short route from thought to action if one wants to head out into nature, participate in cultural or sports activities or buy locally. Bicycle traffic is therefore not a singular goal but rather an effective tool to use when creating a liveable city with space for diversity and development. Fortunately, it pays of to invest in urban cycling. Increased cycling levels give society less congestion, fewer sick days, longer life expectancy, less wear and tear on the roads and less pollution. Cycling initiatives are also inexpensive compared with other transport investments”.

The City of Copenhagen's Bicycle Strategy 2011-2025

How to Develop a Bicycle Master Plan

Creating a Roadmap for Producing & Implementing a Bicycle Master Plan

by Peter Lagerwey

THE NATIONAL CENTER FOR BICYCLING & WALKING

bikewalk.org

BUILDING STRONGER COMMUNITIES

How to develop a Bicycle Master Plan (BMP)

Three phases in developing a Bicycle Master Plan

Phase One: Before the Plan (14 Tasks)

- Develop stakeholder buy-in prior to development of the plan.
- Setting up a citizen advisory committee, develop consensus on plan goals, objectives, and content and appoint a consultant

Phase Two: Developing the BMP (9 Tasks)

- Step-by-step procedure to identify roles and responsibilities, secure public involvement, and develop the plan content and maps. Requires careful time and budget management.

Phase Three: Implementing the Plan (6 Tasks)

- Strategy for implementing and evaluating BMP on an on-going basis. Includes accountability, political will, and stakeholder involvement.
- Implementation is the one element often left to chance without a purposeful strategy for moving forward.

Phase One: Before The Plan

Step 1: Establish a Need and Create Buy-In

- Elected officials, transportation officials and other stakeholders responsible for funding, developing, and implementing the bicycle master plan must believe that there is a need for such a plan.

Step 2: Secure Funding

- Funding a BMP is a political process that can only move forward once buy-in has occurred. Since decision makers will need to approve the funding, they must be convinced that a BMP is necessary.

Step 3: Find a Home for the BMP

- Identify a lead agency for developing the BMP early in the process. Advantageous for the plan to be developed by the agency that will hold primary responsibility for implementing the plan. A project manager should be identified early in the BMP process.

Phase One: Before The Plan

Step 4: Develop a plan for internal review & involvement

- One of the initial tasks for the project manager is creating an Internal Review Team (IRT). The purpose of the IRT is to improve the quality of the BMP by creating ownership and support required for implementing the plan.
- The IRT to meet frequently and be involved in all key decisions, from establishing plan goals and objectives to reviewing and approving the BMP.

Step 5: Invite Public Involvement by creating a Bicycle Advisory Committee (BAC)

- Ongoing public involvement in all phases of the BMP process crucial to ensure that bicyclists will support the completed plan. BAC the conduit for public involvement to reflect needs, interests, and concerns of the bicycling community.

Phase One: Before The Plan

Step 6: The BAC agrees on its mandate and role

- Developing and agreeing on a mandate for the BAC is critical to managing committee members' and stakeholders' expectations. This includes defining the roles and relationship between agency staff, the public, the consultant (if used), and the BAC. Clarifying roles and relationships early will create trust in the process and among those developing the plan.

Step 7: BAC develops a work plan and time line of the plan.

- The work plan and time line should flow from the agreed-upon role and mandate of the BAC. Identify each item that needs to happen prior to and during the development of the BMP and include those tasks in a time line.

Phase One: Before The Plan

Step 8: BAC decides Plan Type: Policies, Projects, Or Programs

- Many bicycle master plans are a mix of policies, projects, and programs. There is no “best” approach for achieving success. Plans will vary in focus depending on the needs of the community; those needs will be identified through research and public involvement.

Step 9: Develop consensus on goals for plan.

- Among other goals, most plans will focus on increasing use—more people bicycling more often—and reducing crashes. Everything else (facilities, education and enforcement programs, etc.) will serve to support these two goals.

Step 10: Develop consensus on the objectives of the plan.

- Typically objectives will be organized around policies, projects, and programs. May also be organized around traditional E’s of Engineering, Education, Enforcement and Education. Objectives must pass the following two tests:1) Does the objective address the goals of the plan? 2) Is the objective supported by the BAC?

Phase One: Before The Plan

Step 11: Develop consensus on the content of the plan

- Discuss what the final plan will look like. Will it include maps and cross sections? How will the document will be balanced with respect to the 4 E's (Engineering, Education, Enforcement, Education)?. Will it be an electronic document? Will it be an independent document or will it be an addendum to an existing transportation plan?
- What the final plan looks like may change as the plan is developed; this step helps ensure that the final plan reflects the desires and wishes of internal staff and the BAC.

Step 12: Determining what role consultants will play

- When hiring a consultant, take the time to determine what added value you want the consultants to bring to the BMP.

Step 13: Writing the RFP (when using a consultant)

- The RFP should be written to reflect previously agreed upon goals, objectives, plan content, and priorities.

Phase One: Before The Plan

Step 14: Selecting a consultant

- Be thorough when evaluating proposals from consultants. Do not take short cuts. Do not compromise on the original scope of the project vision.
- Score proposals. Review and score other plans completed by consultants submitting proposals.
- Check three references of the top two to four consultants.
- Conduct interviews of the top two to four consultants.
- Negotiate a contract.

Phase Two: Developing The Plan

Developing a BMP requires a thoughtful, step-by-step procedure to identify roles and responsibilities, secure public involvement, and develop the plan content and maps. It also requires careful time and budget management.

Phase Two: Developing The Plan

Step 1: Define the project manager's new role.

- The project manager holds the entire BMP process together. In Phase Two, the project manager's primary role becomes facilitating communication between all stakeholders and keeping the project on schedule and within budget. Also the single point of contact for all information flow.

Step 2: Establish communication rules

- Establish clear rules for communication between the consultant and the client. (Skip this step if you are not using a consultant.) Start with on-going, weekly communication between the consultant and the project manager.

Phase Two: Developing The Plan

Step 3: Reporting and billing

- Produce a short progress report each month, noting advances on key milestones along with a billing statement. This report is needed whether or not a consultant is used. Do not wait for months and then be surprised by a lack of progress or large invoices.

Step 4: Set Internal review team (IRT) meetings

- The IRT, including the city traffic engineer and others, should meet with the project manager on a regular basis, and be involved in all major decisions and reviews. The consultant should attend as many of these meetings as possible.

Step 5: Maintain public outreach

- The public process should include ongoing meetings of the Bicycle Advisory Committee (BAC), meetings with other stakeholders and larger public meetings.

Phase Two: Developing The Plan

Step 6: Preparing a draft plan

- The outline for the draft plan should flow out of the goals, objectives, and content agreed to in the “before the plan” steps of Phase One. Will vary from community to community. Typical plans will include:
  - An Executive Summary,
  - A description of existing conditions
  - Chapters: 1) Physical network 2) Education 3) Enforcement 4) Innovations 5) How priorities were set 6) Implementation 7) Evaluation
- Each chapter should include an explicit statement on how the chapter supports the goals and objectives of the plan.

Phase Two: Developing The Plan

Step 7: Setting priorities

- Plans should include recommendations regarding priorities. When setting priorities, stay focused on accomplishing plan goals and objectives. Politically, it is critical to show visible, measurable progress year to year. One simple approach is recommending short-, medium-, and long-term priorities

Step 8: Plan implementation

- The single best way to implement physical improvements recommended in a plan is through routine accommodation. Bicycle improvements recommended in the BMP should be installed as part of routine maintenance and capital projects.

Phase Two: Developing The Plan

Step 9: Plan accountability, evaluation, and updating

- The BMP should include a strategy for accountability. The local agency that owns the plan must be held accountable for implementing the plan.
- Evaluation means checking to see if the goals of the plan are being accomplished.
- The BMP will need periodic updates. Consider updating your plan in conjunction with your Integrated Transport Plan. Typically, these updates will occur every five years.

Phase Three: Implementing The Plan

The steps required to implement and evaluate a BMP. Once your plan is completed, there needs to be a strategy for implementing and evaluating the BMP on an on-going basis. This includes accountability, political will, and stakeholder involvement.

Implementation is the one element that is often left to chance without a purposeful strategy for moving forward.

Phase Three: Implementing The Plan

Step 1: Get the plan adopted

- The completed BMP should immediately be adopted by local elected officials. This could be by resolution or ordinance. If it is a state-level plan, it may be adopted through a transportation commission or other oversight body. A public adoption of the plan gives it credibility and authority.

Step 2: Immediately begin implementing the accountability strategies contained in the plan.

- Staff should secure a place on the agenda of whatever group has been designated to monitor implementation of the plan, and start making monthly reports. The point is to establish a pattern of accountability that will ensure the plan will be implemented.

Phase Three: Implementing The Plan

Step 3: Develop an annual work plan

- An annual work plan should be presented to the designated group charged with accountability for implementation. Have that group review and approve the work plan. The work plan should include specific, measurable tasks. Typical examples include:
  - Install (x) miles of bike lanes;
  - Install (x) number of bike racks;
  - Begin an education program that targets (x) number of schools.

Step 4: Ongoing public outreach

- Public involvement does not end with the adoption of the plan. Every project will involve some outreach.
- Public outreach should be taken very seriously; otherwise you'll risk a public backlash that slows or stops implementation of the plan.

Phase Three: Implementing The Plan

Step 5 : Document your success

- Document, document, document. Create a file labelled “All of Our Work Gets Entered Here.” Document every drain grate, bike rack, policy change, signal timing adjustment, and educational brochure that is produced, installed, or created. Take before and after pictures for every bike lane project

Step 6: Seize the day

- Successfully implementing a BMP means taking advantage of every opportunity that presents itself. Every public and private project and program can provide an opportunity to make improvements for bicyclists. The ingredients of success are time, money, and most importantly, political will.

Phase Three: Implementing The Plan

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Case studies of Bicycle Master Plans

TWO INTRODUCTORY REVIEWS:

1. **Bikeway Networks: A Review of Effects on Cycling**

RALPH BUEHLER∗ § AND JENNIFER DILL∗∗ ∗Urban Affairs and Planning, School of Public and International Affairs, Virginia Tech, Alexandria, USA; ∗ ∗Nohad A. Toulan School of Urban Studies and Planning (USP), Portland State University, OR, USA (July 2015)

"… research on bikeway networks would benefit from better and more systematic data collection on bikeway supply and cycling demand. Governments typically collect data about motorized traffic demand and roadway supply, but they rarely systematically gather data about cycling levels and the bikeway network. Standardization in the measurement and regular reporting of count and bikeway data (including standardized definitions of facilities) would help researchers track changes over time and compare across cities. Moreover, regular and systematic inclusion of bicycling in travel surveys and more systematic counts of cyclists would improve measurement of cycling demand." (Page 15)

2. Whose Lane Is It Anyway? The Experience of Cycling in a Mid-Sized City Rebecca Fallon Mayers & Troy D. Glover

This study emphasised the need to include cyclists themselves in policy and design, including areas such as cyclist identity, the dangers of cycling, understanding the cyclist experience, socio-economic factors (status of cycling, cost of bicycles) and feelings of marginalization.

In sum, this study highlighted the importance of researching cyclists' experiences regarding city cycling. In so doing, this research "contributes to the body of knowledge on city cycling and encourages future research on the subject to enable more participation in cycling." (page 15).

Case studies of Bicycle Master Plans

Cape Town Bicycle Master Plan *(Case study -Updating of a BMP)*

Sydney Cycle Strategy and Action Plan 2007-2017 *(Case study - Developing an extensive cycling network)*

Copenhagen Bicycle Strategy 2011-2025 *(Case study - Significant shift to cycling)*

Cape Town Bicycle Master Plan

Background

- The City of Cape Town's Bicycle Masterplan (BMP) was developed in the eighties and nineties and the latest update is dated 2002. Since then various NMT planning and implementation initiatives were undertaken in the last few years in Cape Town and include the NMT Plan for the City of Cape Town, the Klipfontein Corridor Project, the Integrated Rapid Transport (IRT) project which included a NMT component, as well as the City-Wide NMT Plan.
- The BMP of 2002 was developed to connect potential bicycle trip generators and attractors such as residential communities, places of work and strategic facilities around Cape Town through a metropolitan bicycle network. With the development of the City-wide NMT Plan there was a need to review and upgrade the BMP

Cape Town Bicycle Master Plan

Velo Mondial Cape Town 2006
Towards Prosperity
350 delegates from 41 countries

City of Cape Town VM Declaration, the aim of which was to ensure that the CoCT facilitated the following tasks:

- **Reclaiming public space so as to improve quality of life**
- **Improving the integration of cycling with other sectors such as: health, public transport, environment, and economic generation**
- **Facilitating greater access to high-quality technical expertise on cycling**
- **Ensuring political commitment for an increased role for NMT in economic and community development**
- **Planning to retain and encourage the small scale and mixed function of community districts and make these as accessible as possible to the bicycle**
- **Building the capacity of community-based organizations and supporting NGOs in order to promote NMT**
- **Engaging the business community in providing healthy workplaces**

Cape Town Bicycle Master Plan

Relevant planning documents in updating the BMP

- The City of Cape Town's SDF guided the update of the BMP.

  Land use proposals such as future residential, industrial and commercial developments were used as guidelines for the update of the BMP. The mobility corridors, as well as the economic activity nodes and scenic routes, were also considered as guiding components for the BMP update.

- The ITP also proposed an updated Road Hierarchical Classification which was considered in the process, especially in the Northern Growth Corridor area.

Cape Town Bicycle Master Plan

Engagement with the bicycle stakeholders

- A workshop was held with the City of Cape Town officials and the bicycle stakeholders after the commitment shown during VM2006
- The process of updating the BMP included:
  - Identification of duplication of routes and gaps in the network using the previous BMP and the higher-order NMT routes,
  - Identification of the relationship between the previous BMP and public transport routes considering IRT and public transport exchanges, and the
  - Identification of training routes or routes frequently used by cyclists, recreational cycling, commuter routes and metropolitan connectivity was undertaken.

Cape Town Bicycle Master Plan

Considerations in the updating of the BMP

The previous BMP was super-imposed over the higher-order NMT routes to identify duplication of routes and gaps in the network.

Cyclists training routes or roads frequently used by cyclists were identified by BEN, Pedal Power Association (PPA) and other bicycle user groups, and these formed part of the City-wide NMT Plan over the period from 2006-.

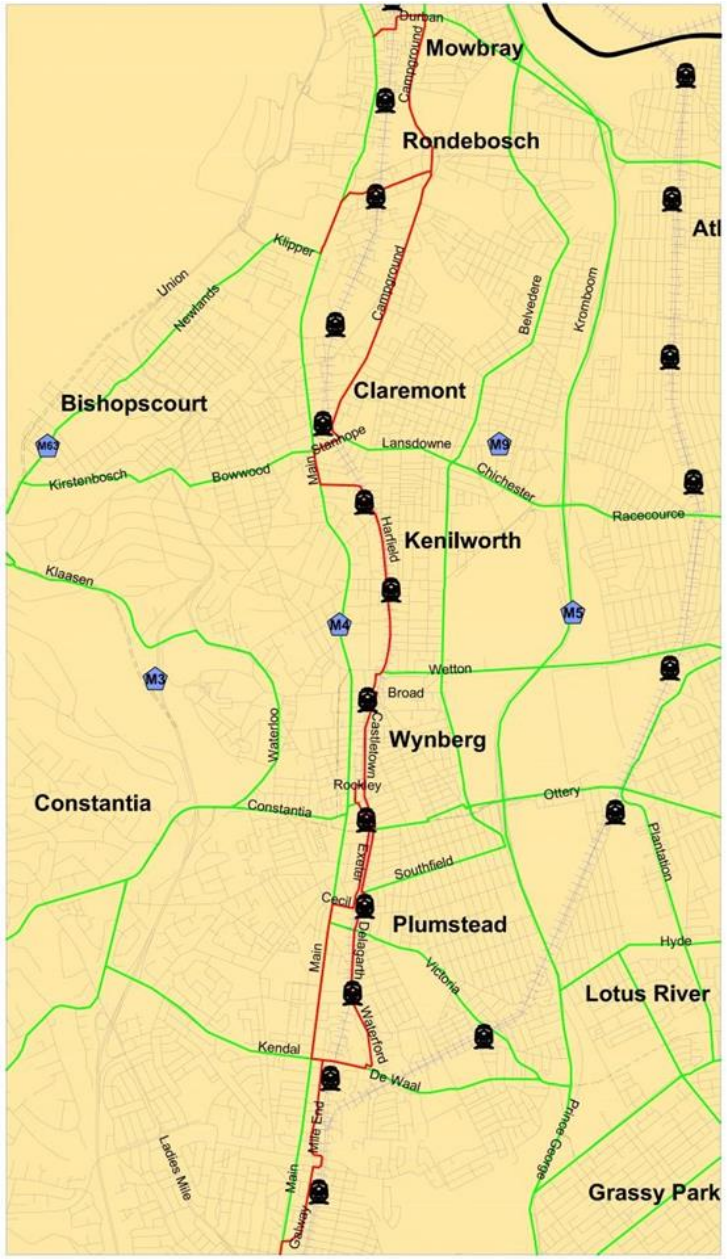
Super bike ways for example NMT path built along the IRT busway along the R27 were also included as part of the BMP. These routes are guided by key origins and destinations and key desire lines within Cape Town.

Scenic routes were included.

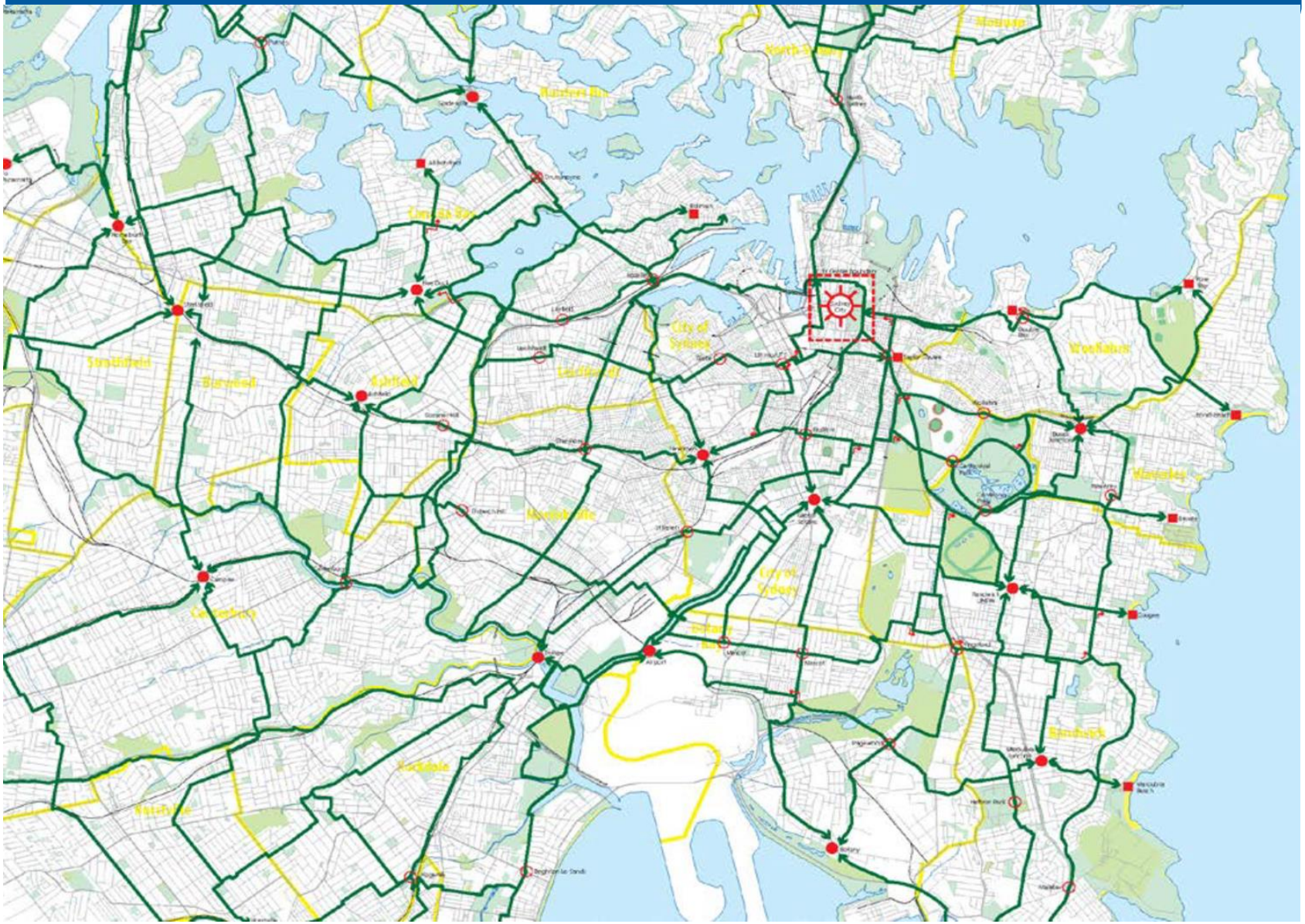
Cape Town Bicycle Master Plan

Cycling routes categories identified during updating of BMP

- City - wide cycling routes
- Roads frequently used by cyclists
- Super Bike Ways
- Commuter routes
- Scenic routes
- Future cycling routes on proposed roads
- Cycling routes to avoid congestion (see example in Map in Southern Suburbs)



Sydney Cycle Strategy and Action Plan 2007-2017
(Austroads AP-R492-15)



Sydney Cycle Strategy and Action Plan 2007-2017

Sydney Cycle Strategy and Action Plan 2007-2017

Purpose of the Strategy

- Establish a long-term vision for cycling in City
- Provide direction and actions to achieve a greater level of cycling participation
- Define the cycling network and infrastructure that will be delivered by Council;
- Define the social initiatives to be undertaken to support the provision of cycling infrastructure;
- Identify specific, practical, and achievable actions to be implemented and delivered by the City.

Sydney Cycle Strategy and Action Plan 2007-2017

Vision for cycling

- Sydney will be a bicycle-friendly environment where people of all ages can use bicycles for enjoyment and as an equal transport choice.
- The City and its villages will be interconnected by high quality cycling network that cyclists from children to the elderly feel safe and comfortable on.
- Our community will recognise the important role of cycling in improving the quality of City life and community health; better environmental sustainability and reduced traffic pollution.
- Cycling and walking will be the natural first choices for medium and short trips and local activities in our City villages.

Sydney Cycle Strategy and Action Plan 2007-2017

Aims of Cycle Strategy

- Increase the number of trips by residents by bicycle from 2% in 2004 to 5% by 2011, and to 10% by 2016
- Increase the number of bicycle trips between 2 and 20 km made in the City of Sydney, as a percentage of total trips to 20% by 2016
- Create and maintain a cycling friendly environment in Sydney and to improve the safety of cycling
- Develop a culture of cycling as a normal transport choice, equal with walking and public transport and a preferred to private travel
- Increase the proportion of Sydney cyclists who feel comfortable and confident when they are cycling in the City and ensure that it is 80% or higher by 2016
- Reduce the number of collisions and injuries involving bicycles and achieve a reduction in the number of reported incidents.

Sydney Cycle Strategy and Action Plan 2007-2017

Strategic directions

- Fully interconnect the City's villages with a high-quality cycleway network that is within a five minute bicycle ride from all residents.
- Provide a bicycle network that is safe enough for parents to take children on most routes.
- Support cycling as a legitimate use in all local streets, parks, squares, plazas, and other public places, while recognising that pedestrians have priority over cyclists.
- Provide a physical cycling environment in which cyclists feel confident to ride the City's streets in safety and comfort.
- Provide a culture where cycling is included as an equal consideration in the design and maintenance of roads, footpaths, parks, and developments.

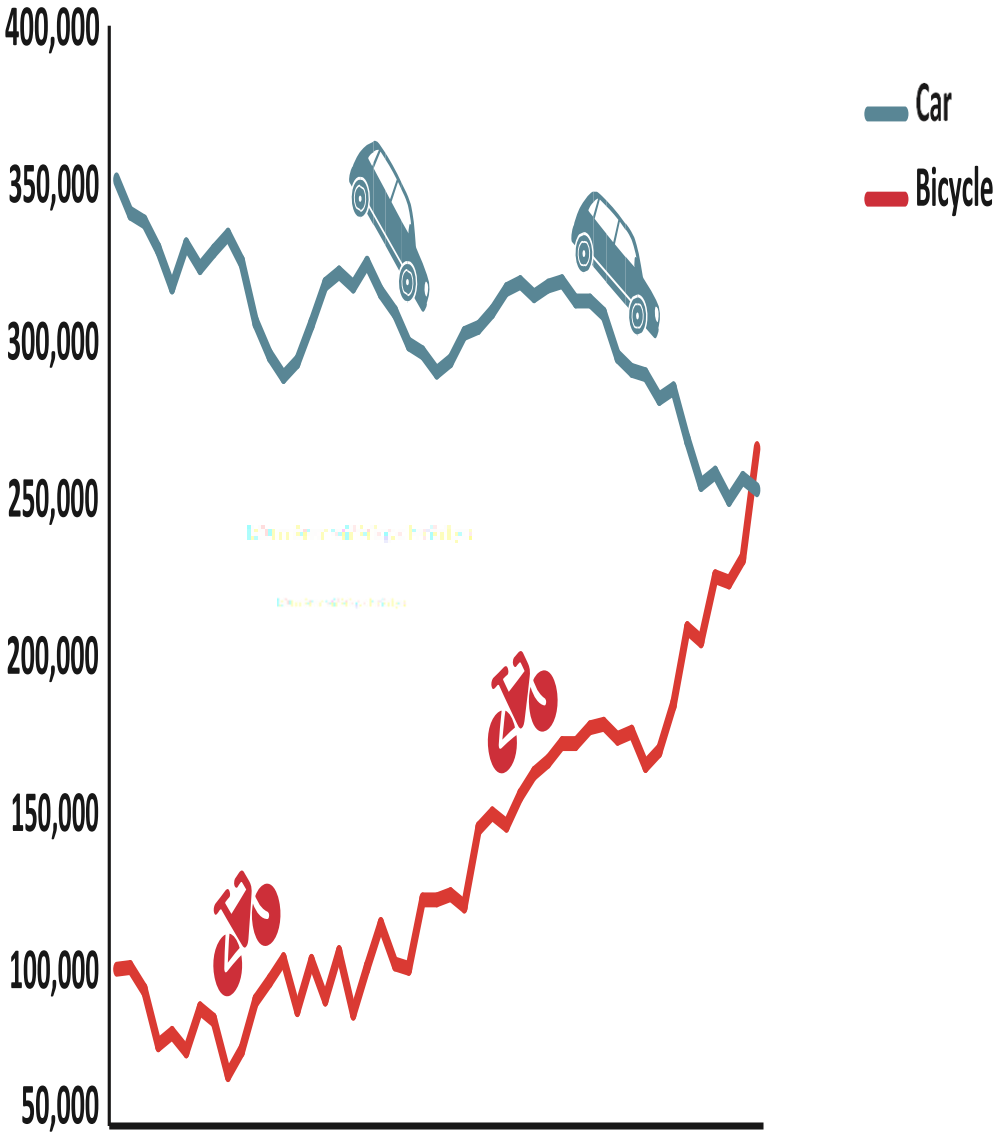
Sydney Cycle Strategy and Action Plan 2007-2017

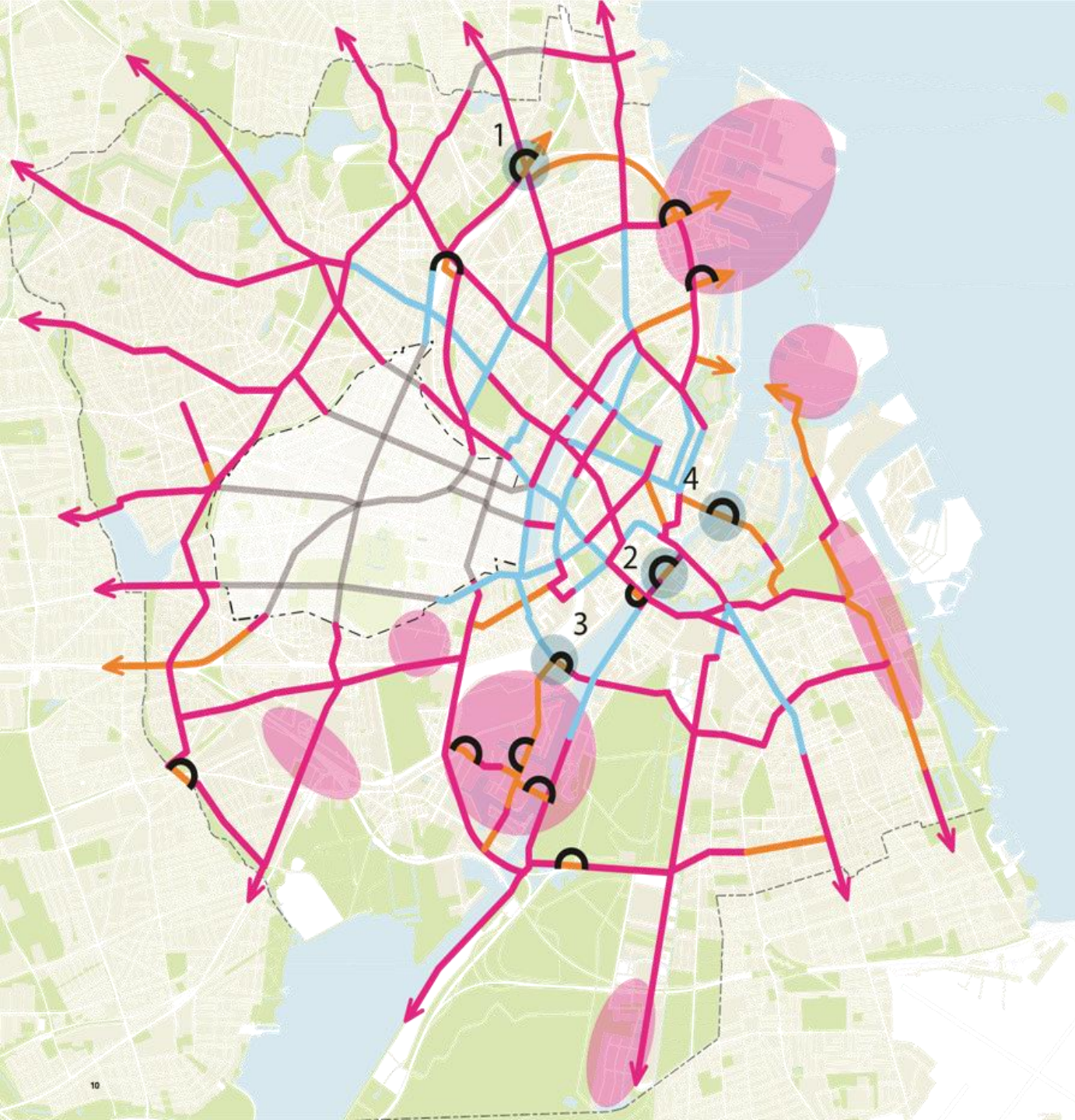
Strategic directions (continued)

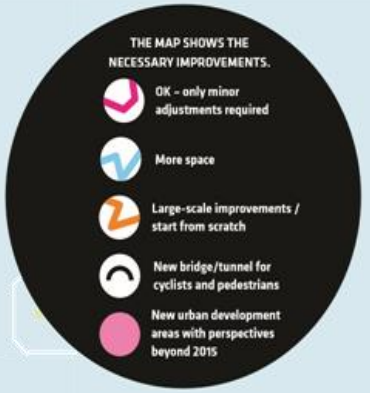
- Provide access for cyclists to high quality and secure bicycle parking and end of trip facilities at workplaces and other major cycling destinations to support cycling becoming a part of everyday life.
- Ensure ongoing participation of community members and stakeholders in the City's cycling initiatives and in the implementation of this Cycle Strategy and Action Plan 2007-2017.
- Promote an environment of mutual awareness and respect between cyclists, pedestrians, and other road users.

Copenhagen Bicycle Strategy 2011-2025

Bicycle traffic in the Centre of Copenhagen 1970 - 2016







PLUSnet

In 2025 there will be a PLUSnet for cyclists in Copenhagen, consisting of chosen Green Routes, Bicycle Superhighways and the most congested bicycle routes. The PLUSnet ensures a high level of quality for space, intersections and maintenance so that many cyclists can travel securely and comfortably at the tempo that suits each individual.

CONVERSATION CYCLING

On the PLUSnet, Copenhageners can converse with a friend or cycle next to their mum or dad without being disturbed by the bell ringing of people who want to get past. The goal is 3 lanes in each direction on 80% of the network (4 lanes in total on stretches where the cycle tracks are bi-directional).

WE'RE ON OUR WAY

The map shows the PLUSnet, examples of large-scale improvements that have been approved and other improvements between now and 2025 that have a high priority. The exact routes and capacity will be adjusted on an ongoing basis, based on traffic and city development.

EXAMPLES OF APPROVED PROJECTS

BRIDGES:

1. **Bridge over Lyngbyvej and the coming Nordhavnsvej**
2. **Cirkelbroen**
3. **Bryggerampen**
4. **Bridge across the Inner Harbour**

STRETCHES:

Nørrebrogade *(wider cycle tracks, among other projects)*
Farum Route *(Bicycle Superhighway)*
Albertslund Route *(Bicycle Superhighway)*
Svanemølle Route *(Green Cycle Route)*
Nørrebro Route, Åbuen - Jagtvej *(Green Cycle Route)*

Cycling in the Centre of Copenhagen

How have they achieve this modal shift to cycling?

Travel time

- Bicycle Superhighways (in the capital region).
- Small short cuts & contraflow in one-ways.
- Large short cuts (bridges underpasses).
- E bikes and infrastructure.
- ITS – green waves for cyclists.
- Info about the best routes GPS.
- Lower speed limits for cars.
- Better links with metro/train/bus.
- Increased population density.
- Behavioural campaigns focusing on signalling and overtaking.
- Cooperation with the police regarding changing traffic laws, in-contraflow on one-way streets, to turn right at red lights.

How have they achieve this modal shift to cycling?

Sense of Security

- Green bicycle routes.
- Intersection redesign (including cycle tracks running right up to the intersection as standard and pulled back stop line for cars.
- Wider cycle tracks where there are bottlenecks.
- New cycle tracks and lanes (30-40 km).
- Wider cycle tracks (10-30 km).
- Painting lanes on wide and busy cycle tracks.
- Bicycle and bus streets.
- Campaigns related to consideration and behaviour.
- Safer routes to school.
- Traffic policy at various schools in Copenhagen.

How have they achieve this modal shift to cycling?

Comfort

- Smoother asphalt on the cycle tracks.
- Effective bicycle parking (infrastructure, partnerships and collecting abandoned bicycles).
- Services - air pumps, drinking fountains, weather reports.
- Partnerships with workplaces and educational institutions regarding bicycle facilities and information.
- Better conditions for city employees (parking, changing rooms, bike repair, etc.).
- Development of new products (valet parking for cyclists, surface treatment for cobblestones, etc.).

How have they achieve this modal shift to cycling?

Life style and Image

- Marketing relating to image, lifestyle, the advantages of cycling.
- Campaigns aimed at specific target groups who have the potential to cycle more, including newcomers, the elderly and people who use the car for short trips.
- A sense of ownership, for example campaigns like Your Bicycle City, Your Mother's Bicycle City.
- Online – a one-stop bicycle portal.

How have they achieve this modal shift to cycling?

Experiences

- Integrating the experience of wind and weather into cycle track design.
- Communicating positive bicycle experiences including ideas like Your Favourite Route, Your Favourite Short Cut.
- Bicycle counts result in encouragement for locals to ride – cyclists can see how many other cyclists pass a point each day