Bikelane along Provincial Route 1 
Santa Fe – S.J. del Rincón, 
Santa Fe, 
Argentina 

Velo City Rio 2018 
June 14, 2018
Agenda

Context - study area / recent changes

History of the project

Objectives & approach

Actors - Institutional arrangement / actors & chronology

Participation - Activities undertaken

Project - diagnosis, conditioners, criteria & decisions adopted

Final comments & Q&A
Location: NE of City of Santa Fe – 500,000 inhabitants – w/Paraná – nearly 1 million
- Capital of Santa Fe Province / Underutilized port – rich agricultural land – service economy
- 475 kms from Buenos Aires – 150 kms from Rosario
Rich environmental & cultural heritage: underpopulated due to flooding

Construction of flooding defenses (90s) ➔ population growth ➔ road widening

Impacts:

• newcomers vs old-timers / relationship with nature

• mobility patterns: congestion, road safety, thru traffic, avenue commerce
Previous project to widen Route 1 (2006) by the DPV:
• Based on rotundas (> speeds) + bikelanes along shoulders
• Little support from local authorities - unbuilt due to hydraulic issues

Current project – designed by DPV in 2007 – 6.5 kms. long
• Module I (finalized)
  • Central roadway widening – from 3 to 4 lanes
  • Traffic safety improvements
  • Urban barrier – separates either sides of road + environmental impact
• Module II (under construction)
  • Side roads + rainwater ducts + crossings and junctions
  • Gas ducts – delayed, allows bikelane component to be incorporated
Objective – approach

• Rights approach: mobility/access vs recreation/leisure
• Integral vision: mobility – public space - landscape
• Mitigate environmental impact of road widening
  • Mobility alternative
  • Landscape recomposition – public space vs utilitarian thru road
  • Knit both sides of the road (urban barrier)
• Participation – central input throughout design process
• Integration with non-motorized transport (NMT)
• Inter-modality - connect to public transport
• Integration to future metropolitan scale network
Institutional arrangement / actors & chronology of project

- Community demands NMT infrastructure after module I – Santa Fe en Bici / La Costa en Bici / neighbors’ associations
- Diálogo Metropolitano – Jatón - picks up demand, proposes project
- Provincial Highway Department (DPV) – owner, accepts proposal, finances project, delegates project management to prof. schools
- CAPSF y CPIC – local professional schools manage project
- Competition to select human resources by DM, CAPSF, CPIC
- Interns and volunteers (CAPSF-UNL-UCSF)
Team:
• Victoria Borgarello, Architect, CAPSF
• Ignacio Millesimo, Engineer, CPIC
• Guillermo Boggia, Engineer, DPV
• Javier Mendiondo, Architect, CAPSF
• Francisco Ortiz, Architect/urban planner, independent
• Jaquelina Santiago, Architect, CAPSF
• Mariana Salvador, Ignacio Maciel, Bicycle associations
• CAPSF / CPIC – professional schools
• Interns UNL / UCSF
**Activities undertaken**

- Inaugural workshop – D. Silva Library - 27/04/2017
- Mapping participatory exercise – *Viales* Campsite - 13/05/2017
- On-line survey
- Email address and Facebook account for comments / suggestions
- Project conclusion workshop - D. Silva Library - 04/09/2017
- Presentation at *Foro Argentino de la Bicicleta* (September 7, Santa Fe)

**Postitive reception** and feedback from community

- Future: participate in project execution?
- Dissemination / outreach / replicability?
Participation

Collective mapping exercise - 13/5/2017, Viales Campsite:
• Generation of alternative social/environmental narrative
• Participation and debate
• Reveal information not picked up in surveys/maps
• Gather information/legitimize decision-making
Surveys, main results: ages 66% between 21 and 40, nearly 60% for work purposes, 55% female, + de 90% would use bike, 36% public transport vs 41% auto

Edad de los encuestados (años):
- 21-40: 65,7%
- 41-60: 24,3%
- 61-80: 7,1%
- 0-20: 2,9%

Motivos:
- Estudio: 17,1%
- Llevar/traer/acompañar a alguien: 4,3%
- Otro: 5,7%
- Salud: 4,3%
- Social: 10,0%
- Trabajo: 8,6%

Evaluación impactos ensanche Ruta 1:
- Muy positivos: 23,2%
- Positivos: 52,2%
- Indistintos: 14,5%
- Negativos: 10,1%

Género:
- Masculino: 44,3%
- Femenino: 55,7%

Modo de Transporte:
- Auto/camioneta: 41,4%
- Bicicleta (otro rodado no motorizado): 20,0%
- Pie: 2,9%
- Transporte público: 35,7%

Usaría bicicleta si hubiera senda:
- Si: 91,2%
- No: 8,8%
• Project inauguration & conclusion workshops – D Silva Library, S. J. Rincón, 04/27/17 & 09/04/17
• Presentation at the Foro Argentino de la Bicicleta – Santa Fe, September 7-8, 2017
Diagnosis

Survey / conditions along east side road
- Geometric design of side roads (Module II)
- Relationship with rainwater duct and rails
- Irregular topography & building lines
- Interferences/infrastructure: light posts, parking, car ramps, others
- Crossings and junctions with main road
- Code / bylaws
- Climate / environment

Km 4+670 - de las Sombras street – looking south

Km 5+000 - de las Sombras street (UTA campground) - looking north
Classification of semi-profiles according to changes on either side in: relationship of main road to side road, of side road to building line or of side road to rain duct

- **Minimum $\Delta h$ between side road and building line**
- **$\Delta h$ between side road and building line without retaining wall (except in short segments)**
- **$\Delta h$ between side road and building line with existing retaining wall**

**SPECIAL SEMI-PROFILE TYPES**

- **Reservoire area Km. 0+300 – 0+800**
- **UPCN area Km. 2+700 – building line set back – possible inter-modal transit station**
Classification of segments: 10 different segments
Types A, B, D = 80% of right of way

<table>
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<th>Segment #</th>
<th>Length (meters)</th>
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<th>East side semi-profile type</th>
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<td>D</td>
<td>A o B</td>
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<td>A o B</td>
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</table>
Analysis of possible locations of bikelane in plan

- On shoulder
- On side street
- On sidewalk
Decisions and criteria adopted for the bikelane

• Bikelane located **over the rainwater duct**
• On both sides of the route (due to barrier effect created by route)
• **Recognize speed gradient / vulnerability in design decisions**
• Additional at-grade crossings to those proposed in original project ≠ avoid elevated bridges
• **Incorporate local vegetation due to climate** (heat/humidity) and landscape recomposition + buffer from traffic
• Decisions inherent to mode: width, radii, intersections, slope, etc.
Typical profile alignment and section
Rendering of bikelane and junction with crossing road
Other products

- Integration to eventual metropolitan network: links to north/south
- Inter-modality: identification of possible bus stops / schematic design of inter-modal infrastructure
- Internal bikelane network in inhabited areas on either sides of road
- Proposal of native vegetation species to shade lane
- Details: at junctions, crossings, bus shelters, park areas
Lessons

• **Growth** dilemmas: How? Why? For whom?
• Value of **process** over final product: steep learning curve, no precedents to lean on - creation of a **team**: replicability potential?
• Obstacles, relationship with DPV/schools not used to this type of project– initial inertia /mistrust DPV-architects
• Complexity – inter-jurisdictional & multi-disciplinary – irregularity of terrain - small scale was a factor – facilitated participation
• **Key actors**: active community, **DM & DPV + schools (Arch+Eng)**
• Common problem in Argentine urban landscape (and elsewhere?):
  • Urban fringe zones in transition under pressure from urban expansion
  • Contrasting views on how to manage urban development and environment

06/14/2018
Bikelane along Provincial Route 1 in Santa Fe, Argentina
Thank you!
Questions & comments welcome
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