Evaluation Criteria Weightings

- Board of Directors goals and policy objectives
- New evaluation criteria
- Addresses sustainability focus area
Highway Corridor & Connectors Criteria Weightings

- Addresses Sustainability: 40%
- Serves Travel Needs: 40%
- Develops Network Integration: 20%

Transit Services Criteria Weightings

- Addresses Sustainability: 40%
- Serves Travel Needs: 35%
- Develops Network Integration: 25%
Proposed Plan Performance Measures

- 2050 RTP goals and policy objectives
- Coordinated work efforts
- 2030 RTP

Quality of Travel & Livability 2030 RTP Measures

- Average travel time mode share
- Average travel speed mode share
- Trip accessibility mode share
- Mode share & travel time (key travel corridors/areas)
- Congestion (peak and all day)
- Vehicle/freight delay
- Accidents/fatalities
Quality of Travel & Livability Proposed New Measures

- Interregional transit routes
- Freight capacity
- VMT by travel speed
- Percent of transportation investments towards maintenance and rehabilitation
- Percent of transportation investments towards operational improvements

Sustainability 2030 RTP Measures

- Environmental Justice (EJ) and non-EJ Population
  - Average travel time mode share
  - Trip accessibility mode share
  - Percent of homes within ½ mile of a transit stop
- On-road fuel consumption
- Smog forming pollutants
- VMT per capita
- Transit passenger miles per capita
- Mode share (Work trip peak-period including bike/walk)
- Average trip distance
**Sustainability Potential New Measures**

- Percent of population (EJ and non-EJ) within 30 minutes of:
  - Healthcare
  - Schools
  - Parks
  - San Diego International Airport

- CO2 emissions
- Net benefits
- Return on investment

**Next Steps**

- April 16th - Transportation Committee will be asked to recommend approval of the evaluation criteria to Board
- April 23rd - Board of Directors will be asked to approve evaluation criteria
- April/early May - Input from working groups on plan performance measures
- May 2010 - Transportation Committee will be asked to approve plan performance measures
Comments/Questions
San Diego Regional Bicycle Plan

April 15, 2010

Rolls bike in
$3,893 saved

6,120 lbs CO₂
133,056 calories

0 emissions
Network

Public Outreach Questionnaire

Bicycle Facility Type (1)
- Highly Preferred
- Not Preferred

Off-street Paved Bike Paths
On-street Bike Lanes
Bike Routes
Unpaved Trails or Dirt Paths
Bicycle Boulevard
Network

- Class I – Bike/Shared Use Path
- 257 miles total
- 150 miles new
Network

- Class II – Bike Lane
- 182 miles total
- 55 miles new

Network

- Class III – Bike Route
- 33 miles new
Network

- Bicycle Boulevard
- 28 miles new

Network

- Cycle Track
- 8 miles new
Network

- 508 miles total
- 273 miles new facility
Policies and Programs

• Education – Complete Streets

Alpine Boulevard – Alpine, CA
Policies and Programs

• Education – Complete Streets

El Cajon Transit Center – El Cajon, CA

Policies and Programs

• Education – Complete Streets

Palm Avenue – Imperial Beach, CA
Policies and Programs

- Marketing/Public Awareness – iCommute Bike to Work Month

- Encouragement – Bike Sharing
Policies and Programs

- Monitoring and Evaluation

Benefits

- Climate Change
- Public Health
- Community/Quality of Life
- Safety
Climate Change

Public Health

Decline in Walking or Bicycling to School (1969-2006)\(^{(16)}\)

- Personal car
- Walk/Bike

Percentage of all school age

Year

Standardized to 2001 age and race distribution. Error bars \(\pm\) show 95 percent interval of confidence.
Public Health

Community/Quality of Life
Safety

Safety of Bicycling in Portland (Notes indexed to 190 = 1991)
Secretary of Transportation – Ray LaHood
San Diego Regional Bicycle Plan

April 15, 2010
Plug-in Electric Vehicle (PEV) Glossary

- **PEVs (Plug-in Electric Vehicles)** – ALL vehicles that use a plug to charge battery for transportation

- **EV (Electric Vehicle) or BEV (Battery Electric Vehicle)** – 100% electric motor drive vehicle that uses stored electric battery power from the grid (via either Level 1 – (120v - long charge time) or Level 2 (240v - shorter charge time) connection or DC Fast Charge (480v – shortest charge time) . These vehicles are also called Zero Emission Vehicles (ZEV) by the California Air Resources Board (CARB) due to the fact that they do not have tailpipe emissions. Electric fuel only – no tailpipe.

- **PHEVs (Plug-in Hybrid Electric Vehicles)** – Start with a hybrid - add a plug and larger battery. For some, the wheels are only powered by electric motors and gives a certain amount of “all-electric drive range” miles from grid stored electricity (e.g. PHEV 20, PHEV 40) before using gasoline to generate “on-board electricity” allow for many more miles (e.g. Chevy Volt ~40 electric, ~300 gas/electric). Other PHEVs will alternate between gasoline engines and electric motors (like a Prius hybrid), but stay in electric mode longer and more often due to the on board grid stored electricity. These will give you a larger MPG, but it is difficult to isolate “all electric drive” portion of operation. Can use either 120v or 240 v charging, but you will cut charging time approximately in half with 220v. Two fuels – has a plug and a tailpipe.

- **NEVs (Neighborhood Electric Vehicles)** – These are also BEVs, but due to size of battery and vehicle; they are limited to low speeds and limited range (due to battery size and vehicle safety restrictions). Top speed ~ 25 MPH on roads posted 35 MPH. Sometimes referred to as Low Speed Electric Vehicles, therefore “neighborhood” type vehicles. Good application for campuses, retirement communities, etc. Electric fuel only – no tailpipe – small and slow
Pricing/Rebates

**LEAF Pricing:**
- SV Version - $32,780
- SL Version – solar trickle, back-up camera, cargo cover, auto headlights and fog lamps + $940
- DC Fast Charge Port - ? $640 (eTec providing to eTec/Nissan customers)
- eTec version- $21,240 + Fast Charge port + home infrastructure
- General – $20,280 + fed rebate for charging

**Rebates:**
- **Vehicle Federal Tax Credit:** $7,500
- **CA Cash Rebate:** $5,000* (until money runs out) – CCSE
- **to $5000 for a Light Duty EV, to $3000 for a Light Duty PHEV, to $20,000 Commercial Medium/Heavy Duty vehicle that weights 10,000lbs or more**
  - Must be Air Resources Board certified re: emissions
  - **Infrastructure for charging:**
    - Residential 50/50 – to $2000
    - Business 50/50 – to $50,000
    - [scheduled to expire 12/31/2010](http://www.irs.gov/newsroom/article/0,,id=206871,00.html)

Early Initiatives
Identification/Orientation of Stakeholders

- **Nissan – NDA and MOU**

- **SDG&E Regional Stake Holders Group:**
  - San Diego Assoc. of Gov. (SANDAG) 19 Municipalities
  - SD Clean Cities Coalition; California Center for Sustainable Energy
  - SD County Gov; Water District; Airport/Port/Convention Authorities; SDAPCD
  - SD Universities/Colleges; SD Unified School Dist; Automotive Technician Training Program
  - Military (Navy & Marines)
  - Transit Agencies (Metropolitan and North County), MoveSD
  - Chambers of Commerce; Lung Assoc.; etc.

- **State Stake Holders:**
  - California Regulatory: CPUC (OIR); CEC (AB118); CARB (ZEV; Vehicle Rebate); SCAQMD; etc.

- **Other Regional:**
  - California Electric Transportation Coalition (CalETC) – SDG&E; PG&E; SCE; SMUD; LADWP
“Building” Initiatives

- eTec Regional and National Support – Regional Stake Holders and Utility EV Project Utilities
- Code Compliance Agencies – Municipal Governments, International Code Council
- PEV Outreach – California Building Industry Assoc (CBIA); Developers; Contractors
- Multi-unit Dwelling (MuD) Outreach/Education
  - EPRI MuD Flow Chart and Guideline
  - Professional Assoc: Property Managers; HOA; Planners

Present Projects

- Price Elasticity Project – Investigate TOU pricing impact on consumer PEV Charging Behavior (part of eTec/Nissan roll-out) Application Filed with CPUC – 3/26/2010
- PEV impact study on Distribution System (Transformers) -2009/2010
- Multi-unit Dwelling Outreach – Beta Test, Implementation following contact campaign
- CARB - Alt. Fuel Rebate Project – Present funding - $3.1 MM – LEAF @ $5k Increase funding to $20 – 25 MM for next offering via CalETC; CA Utilities; SANDAG; County Gov.; SDAPCD; Univ.; etc.
- Discount Financing for Employees: California Coast Credit Union
  - .25% on 60 month financing
What Drives Charging Time Decisions?

- **Price**
  - Low super off-peak rates

- **Technology & Information**
  - On-board Leaf technology;
  - Web based access; etc.

- **Lifestyle & Convenience**
  - Work schedule & green values

---

**Example Experimental Rate Options**

The use of Experimental Rates requires CPUC approval.
### Rentals

**California**

- Renters: 43%

**Sacramento**

- Renters: 42%

**San Diego**

- Renters: 45%

### Housing

**Multifamily Complexes**

<table>
<thead>
<tr>
<th></th>
<th>Sacramento</th>
<th>San Diego</th>
</tr>
</thead>
<tbody>
<tr>
<td>Households in Multi-unit Complexes</td>
<td>7,767</td>
<td>35,500</td>
</tr>
<tr>
<td></td>
<td>115,567</td>
<td>392,515</td>
</tr>
</tbody>
</table>

Demographics can be viewed at: [www.city-data.com](http://www.city-data.com)
Resources:

- CARB Alternative Fuel Training Curriculum – 2009
- Ready/Set/Charge – Clean Fuels
- Rocky Mountain Institute (Project Get Ready) – Signage, etc.
- ADA Reg/Rec – State Architect of CA – 1 of 1-25 spaces/Adjacent
- Electric Drive Transportation Assoc. (EDTA) – Federal initiatives/incentives
- National Plug-in Vehicle Initiative (NPVI) – Web Based National Clearinghouse for PEV Information and “Fast Response Ctr.” (PEV and EVSE Specs; Utility PEV TOU Rates; Incentives; etc.)
Contact Info

• Joel Pointon
• Electric Transportation Manager
• Jpointon@SempraUtilities.com
• 858.654.8767
• www.sdge.com/CleanTransportation

PEV Glossary (continued)

• OEM – Original Equipment Manufacturer, such as Nissan, GM, Ford, etc. for auto manufacturers
• SOC – State-Of-Charge: how much remaining battery energy is available
• V2G – Vehicle to Grid - Supplying energy from vehicle batteries to the grid
• TOU – Time Of Use - in relation to rates, time of day use corresponds to pricing (off peak = lowest rate)
• DC - Direct Current – type of electric current used to charge batteries, can be used for fast charging
• AC – Alternating Current - standard home electricity current, must convert to DC for battery use
• EVSE – Electric Vehicle Supply Equipment, abbreviation used for charger hardware
• Li-ion – Lithium-ion battery, generic term for many variations of battery chemistry
• NiMH – Nickel Metal Hydride Battery: chemistry typically used in current hybrid models (e.g. Prius)
• kWh Rating – Battery energy capacity rating (e.g., Nissan LEAF has a 24 kWh battery capacity)
• J1772 – SAE, Society of Automotive Engineers connector standard for 120V and 240 V vehicle to charger
NISSAN’S ZERO-EMISSION FUTURE

Keiichi Kitahara
Senior Manager, Corporate Planning
April 15, 2010

www.nissanusa.com/leaf-electric-car

NISSAN LEAF - Recap

Highlights
- Zero emission
- Affordable
- Stimulating acceleration
- Quietness
- 100-mile range sufficient for daily use
- Advanced intelligent transportation (IT) system

<table>
<thead>
<tr>
<th>Size</th>
<th>5-door compact hatchback</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity</td>
<td>5 Adults</td>
</tr>
<tr>
<td>Range</td>
<td>100 miles</td>
</tr>
<tr>
<td>Top Speed</td>
<td>90 mph</td>
</tr>
<tr>
<td>Battery</td>
<td>Laminated Li-ion</td>
</tr>
<tr>
<td></td>
<td>(Manufactured by AESC)</td>
</tr>
<tr>
<td>Capacity/Power</td>
<td>24 kWh/280Nm</td>
</tr>
<tr>
<td>Motor</td>
<td>High-response synchronous AC Motor</td>
</tr>
<tr>
<td></td>
<td>80kW/280Nm</td>
</tr>
<tr>
<td>IT System</td>
<td>Integrated communication system</td>
</tr>
</tbody>
</table>
NISSAN LEAF

MAKING ZERO-EMISSIONS AFFORDABLE

2011 Nissan LEAF – MSRP starting at $32,780

- Cost to consumer = $25,280 after $7,500 Federal tax credit
- Tax credit up to $2,000 available toward installing of personal charging dock
- California – cash rebate of up to $5,000 for the lease/purchase of qualifying plug-in vehicle (funded by CARB)
- Reservation System – opens to handraisers on April 20th.
LEAF GRADE STRUCTURE

The LEAF grade strategy focused on simplicity, while offering the consumer a great value in both trim levels.

**SV: $32,780 (msrp)**
- Navigation w/ Telematics
- Nissan Advanced Airbag System
- VDC / TCS
- Intelligent Key System
- Push button start
- LED head/tail lamps
- 16” alloy wheels
- Electric parking brake
- Regenerative braking
- 4 wheel disc
- Bluetooth
- Trickle charge cable
- 60/40 fold down seats

**SL: $33,720 (msrp)**
- Photovoltaic solar panel spoiler
- Rearview camera
- Universal Garage Door Opener
- Cargo Cover
- Auto on/off headlamps
- Fog lamps

**Option:**
- DC Fast Charge Port

---

EV MARKET READINESS

- **Incentives for consumers**
  - Financial (tax credit, free permitting, free charging, subsidized charger installation)
  - Non-financial (HOV lane access, preferential parking, etc.)

- **Streamlined EVSE permit process**
  - Fast, easy permit application process (online permitting)
  - Expedient installation approvals or installer self certification

- **Charging Infrastructure**
  - Home
  - Workplace
  - Public

- **Education and Public Outreach**
  - Educate the public on environmental, social, and financial benefits of zero emission vehicles
NISSAN LEAF HANDRAISERS – San Diego

NISSAN Confidential

LEVERAGING EACH PARTNER’S STRENGTHS

Nissan
- Electric Vehicle
- Battery
- EV knowledge & support
- EV service and maintenance

State or Region
- Promote EV awareness
- Infrastructure
- EVSE Permit Process
- Legislation/Incentives
- Public education
- EV fleet vehicles

Companies
- EV fleet vehicles
- Workplace Charging
- Promote EV awareness
- Incentives for employees

Utilities
- Expand renewable electricity sources
- Capacity expansion
- Time of use rates
- Demand Response
- Infrastructure

A SUSTAINABLE FUTURE REQUIRES ALL STAKEHOLDERS WORKING TOGETHER
WHEN WILL NISSAN’S EV BE AVAILABLE?

- Due to the strong partnerships with SANDAG, SDG&E, and eTec, cars will be available starting in December 2010.

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
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<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Today</td>
<td>SOP</td>
<td>Fall</td>
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<td></td>
<td></td>
<td>SOS</td>
<td>Grow</td>
<td>Markets</td>
</tr>
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</table>

the new car
BENEFITS TO THE CONSUMER

- True zero-emission vehicle
- Affordable pricing
- Lower Total Cost of Ownership than a comparable Internal Combustion Engine
- Lower maintenance costs than an ICE vehicle (Less complexity, no engine, no oil changes)

Cost per mile comparison (15k miles):

- Car (good 25 mpg, $3/gal) = $0.12 per mile / $1,800
- EV (avg $0.11 kWh) = $0.026 per mile / $396

Advantage exists even if gasoline drops below $1.10/gal
NISSAN LEAF CHARGE PORTS

NISSAN LEAF CHARGE PORTS

INFRASTRUCTURE

Public

Allows for Mass Adoption
- Provides peace of mind
- Fast charging opportunity

Workplace Charging

Supports EV Ownership
- Provides charging for those without dedicated home charging

Residential Home Charging

Majority of Charging
- Owners with single family homes will charge overnight at off-peak rates
- Issue – Multi-Dwelling units

Nissan Confidential
## LEVEL 1, 2, AND DC Fast CHARGING

<table>
<thead>
<tr>
<th>Type</th>
<th>Power Supply</th>
<th>Charger Power</th>
<th>Charging Level</th>
<th>Charger Location</th>
<th>Charging Time (24kwh Battery)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>120VAC Single Phase</td>
<td>12A 1.4kW</td>
<td>Level 1</td>
<td>On-board</td>
<td>8h</td>
</tr>
<tr>
<td></td>
<td>240VAC Single Phase</td>
<td>15A 3.3kW</td>
<td>Level 2</td>
<td>Off-board</td>
<td>4h</td>
</tr>
<tr>
<td>Fast</td>
<td>480VDC 3-phase</td>
<td>30A 6.6kW</td>
<td>DC Fast Charging</td>
<td>Off-board</td>
<td>30min</td>
</tr>
<tr>
<td></td>
<td></td>
<td>50kW</td>
<td></td>
<td></td>
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</table>
EV Project

- What?
- Where?
- How?
- When?

The what...

- $200 million project
  - $100 mil. DOE
  - $8 mil. CEC (SD only)
- Build and study mature EV charging infrastructure
- Lessons Learned
The what…

- 1000 Residential (Base) EVSE
  - Level 2 (240v, 40/30/20 amp) Free to Leaf project participants
  - Zigbee/PLC enabled, certified demand / energy metering
- 1300 Commercial EVSE – Level 2
  - Revenue system pilots
  - 40 amp
- 150 Public EVSE – Level 2
- 60 DC Fast Charge (480v)

…the rest of the what.

- Soft Infrastructure
  - First responder training
  - Permitting / code inspection officials coordination
  - Roadside assistance development
  - Installation contractor training & certification
  - Dealer training
  - Public awareness
Where? Big picture.

Where, up close.
Where in pictures.

How? Lots of help…

- Advisory Committee
  - Expert knowledge in different areas of focus
  - Regional local knowledge / perspectives
  - Energy and passion!
...and collaboration...

- ESAC to provide
  - Direction studies / data to use
  - Methodological refinements
  - Development of site selection / ranking criteria
  - Local preferences / needs
  - Integration with local fabric – physical, mental, emotional

...and organization.

![Diagram](Diagram)
When? RIGHT NOW!

<table>
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<tr>
<th></th>
<th>2010</th>
<th></th>
<th>2011</th>
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<th>2012</th>
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<td>Q1</td>
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<td>EV Micro-Climate</td>
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<td>Long-range Plan</td>
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<td>Prestige Charge</td>
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<td>TSSU Micro</td>
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<td>Roadmap</td>
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<td>Soft Infrastructure</td>
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<td>Utility Interface</td>
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<td>Delivery Starts</td>
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<td>EV Infrastructure Build Out</td>
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<td>Evaluation &amp; Research</td>
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</tbody>
</table>

Project Complete Q2 2013

More Information

www.theevproject.com
www.nissanusa.com
Andy Hoskinson, ETEC Area Manager, San Diego
ahoskinson@etecevs.com
The Emerging Revolution in Street Design

Andy Hamilton

This street meets LOS, but where’s the pedestrian?
This street meets LOS, but where’s the pedestrian?

Official Drivers of Change

- AB 32 and SB 375
- AB 1358 – Complete Streets Act
- 2010 CEQA Guidelines relax LOS, eliminate parking
- Pay-As-You-Drive Car Insurance
- Federal transportation bill emphases:
  - Traffic fatalities
  - Nonmotorized transportation
  - “Safe Routes to School”
  - Livability Criteria for Transit$
- 2010 Highway Capacity Manual
- Mounting safety evidence favors “Livable Streets” approach
**Multimodal LOS Comparisons**

<table>
<thead>
<tr>
<th></th>
<th>Existing Configuration</th>
<th>2 Additional Driveways</th>
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</thead>
<tbody>
<tr>
<td>Auto</td>
<td>2.77 C</td>
<td>2.77 C</td>
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<tr>
<td>Transit</td>
<td>2.56 B</td>
<td>2.56 B</td>
</tr>
<tr>
<td>Bike</td>
<td>3.43 C</td>
<td>3.98 D</td>
</tr>
<tr>
<td>Ped</td>
<td>3.37 C</td>
<td>3.37 C</td>
</tr>
</tbody>
</table>

**CO₂ per Household**

- SB 375 “Requires” Reducing total CO₂ from passenger vehicles.
- Yellow: 0-3.3 tons/hh/yr
- Red: 8.3+ tons/hh/yr

Source: Center for Neighborhood Technology
Unofficial Drivers of Change

- Obesity epidemic
- Aging-in-place baby boomers
- Desire to reduce Carbon footprint
- Unsustainable cost of sprawl & commutes
- Public preference for more transit, walking, and biking
- Home-buyers prefer walkable communities
  - WalkScore.org
Streets as Public Resource

- 25-30% of U.S. urban land is streets, sidewalks, and alleys.
- Largest portion of publicly-owned urban land
- Allocate to other uses?
  - Diagonal parking
  - Traffic calming treatments
  - Pedestrian/bike facilities and amenities
  - Linear parks, fountains, art, ponds, trees
  - Sidewalk cafés, retail carts
  - Stormwater recapture

Seattle
“Street Edge Alternatives” Pilot

- 11% less impervious surface
- 99% less stormwater runoff
- 20% lower cost to build
Pervious Pavement

Chicago
“Green Alleys”

Portland
“Green Streets”

New CEQA Approach

- March 18- New CEQA Greenhouse Guidelines Become Effective
- Appendix G – Transportation impact metrics are up to the reviewing agency
- LOS and accommodating traffic are no longer paramount
- Parking demand no longer an “impact”
San Francisco’s Approach

- Reduce vehicle trips, not relieve congestion
- Mitigation may be pedestrian, bicycle, or transit improvements, carpooling, telecommuting, etc.

Complete Streets Act of 2008
AB 1358: Complete Streets Act

- Signed into law in 2008
- Applies during General Plan or Circulation Element updates
- Requires accommodation of all users of the circulation system
- State will issue guidance document

Implementing Complete Streets

1. Revise street design guidelines and policies
2. Revise decision process to include ALL users
3. Staff training
4. Collect *imperical evidence* of effectiveness
5. Evaluate and innovate
6. Repeat
Safety Evidence

“Current safety objections to the use of livable street treatments are not based on empirical evidence, but are instead the result of a design philosophy that systematically overlooks the real-world operating behavior of road users.”

- Eric Dumbaugh, PhD, PE

“More than 56% of the 6,367 pedestrian deaths in urban areas...occurred on arterial roads.”

- Dangerous by Design, 2009
Pedestrian Crash Map

Traffic Safety Studies

- Ignore confounding variables
  - demographics
  - medical care
  - seatbelt use
  - alcohol use

- Factoring out the confounding variables: current safety approaches result in slightly more crashes, not fewer.

Source: Noland 2003
Max. Safety = 24’ Width

Source: Swift, Painter and Goldstein, 2006

Vehicle Crashes Increase With...

- Lane widths > 9-11’ (Noland 2003)
- Added lanes (Fridstrom and Ingebrigsten 1991)
- Eliminating curves (Shankar 1995)
- Increasing design speed on curves (Shankar 1995)
- Larger shoulder widths (Ivan et al. 2000)
- Removing roadside fixed objects (Dumbaugh 2006)
- Cul-de-sac neighborhood form (Marshall and Garrick 2008)

Mechanism: Increased speed & decreased driver caution
In neighborhoods:
T-Intersections Optimize Safety and Access

We can predict more crashes here...
...than here.

More crashes here...
...than here
**Dutch Approach**

1. Rejected wider, straighter, faster for urban arterials
2. Equal emphasis on walking, bicycling, and driving
3. Strict access controls on arterials
4. Careful attention to context

Result: 60% lower fatality rate, even though they started out 20% higher than U.S.

= 22,000 U.S. lives saved per year
Ramp from Autobahn

Entering Town Center

>19 mph triggers red light
Naked Streets (aka Shared Space)

- No curbs
- No markings
- No signs
- No certainty
- No speeding
- Eye Contact

Safe Urban Form Principles

1. Manage mobility and access on urban arterials.
2. Orient commercial uses toward lower-speed thoroughfares.
3. Plan land use, speed management, and access control at the Network Scale.

(Dumbaugh, 2009)
Affordable Traffic Calming

Dual Bike Lanes - Sacramento
Small Town Street Redesign, Hamburg, NY

NYC Design Manual

- Plan entire ROW
- Detailed checklist of considerations
- What other opportunities does a given project present?
- What innovations can be tried?
- Sustainability opportunities?

Traffic Signal
Untinted Concrete
Raised Crossing
Median w/ Bike Channel

Bus Bulb & Shelter
Curb Ramps
Curb Extens. Bike Parking
Furnishing Zone, Square Pavers
US Adoption of the Livable Streets Approach

- *Smart Mobility Framework, Caltrans*
- *Highway Design Manual, Massachusetts*
- *Smart Transportation Guide, Pennsylvania DOT/New Jersey DOT*
- Charlotte
- San Francisco
- Denver
- Savannah
- Portland
Sustainable Streets
EPA & UC Davis

- **Movement** - Right-sized, speed-appropriate, serving all users safely and well, minimizing VMT.
- **Ecology** - Water recharge, landscaping, trees, reduced emissions, heat, noise, waste.
- **Community** - Identity, sociability, supporting compact development, local materials/designs, value, safety, environmental justice.

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**WANTED**
Better Public Process

- Current process is broken
- NIMBY’s are not representative
- Who speaks for the public interest?
Perth Model

- Establish a volunteer “jury” pool
- For each project, draw 50 jurists
- Train them on the project & all issues
- They present their findings at public hearing after the Proponents and NIMBY’s have spoken

“The livability revolution has begun. There is no turning back.”
- Robert Sullivan, NY Times, November 27, 2008
Urban Area Transit Strategy

A Component of the 2050 RTP
April 15, 2010

Overarching Goal: A world class transit system for the San Diego region

Today’s Topics:

- Unveil the transit networks
- Discuss the revised performance measures
Initial Transit Concepts

- **Transit Propensity**: Expands Transit in the Most Urbanized Areas
- **Commuter Point-to-Point**: Emphasizes Quick Access to Work
- **Many Centers**: Connects Local Smart Growth Areas and Activity Centers

Common Assumptions

- 2030 RTP
- 2050 Regional Growth Forecast
- Major employment centers
- Regional Bike Plan
- Downtown improvements
- Destination Lindbergh and High Speed Rail
Transit Propensity
Expanding Transit in the Most Urbanized Areas
Transit Propensity
Expanding Transit in the Most Urbanized Areas

Commuter Point-to-Point
Emphasizing Quick Access to Work
Commuter Point-to-Point
Emphasizing Quick Access to Work

Many Centers
Connects Smart Growth Areas and Activity Centers
Many Centers
Connects Smart Growth Areas and Activity Centers

Network Summary

Transit Propensity
- Rich network of 10 minute all day local service
- Connections to key job centers via Rapid Bus & BRT
- Streetcars as internal shuttles in focused areas

Commuter Point-to-Point
- Peak period BRT and Rapid Bus service to job centers
- One-seat ride commuter services to minimize transfers
- Network of 15 minute all day local service

Many Centers
- Rich network of local/shuttle services in smart growth areas
- Links smart growth/activity centers with high-speed services
- Adds new LRT lines in urban areas
Performance Measures

Categories:
- Mode Share
- Transit Ridership
- Cost Effectiveness
- Efficiency
- Sustainability and Environmental Justice
- Time-competitiveness

Mode Share
Next Steps

- Modeling underway; performance evaluation next
- Peer Review Panel
- Public workshops
- Reconfigurations/combinations
- Preferred transportation network

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