STEVE RANEY
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My sole proprietor consulting firm, Cities21, produces more innovation than many larger firms. Points of differentiation include: a) outside-of-the-box problem solving methodology, b) broad, cross-disciplinary approach encompassing marketing, management, technology, economics, and planning disciplines, c) social entrepreneurs' energy level, passion, and persistence.

> *"I am especially impressed with the comprehensive approach to implementing an innovative transportation system that has been devised by Cities21 and think it represents a model that should be emulated by others around the country who wish to participate in our needed transportation revolution. More and more cars, however green, are not the answer we need to ward off a growing dependency on foreign oil and to help limit, perhaps reverse somewhat, the degradation that has been imposed on our cities by the automobile. We can do much better but we have to form large coalitions of like-minded people in order to overcome the tremendous vested interests that wish only to maintain the status quo. Cities21 has shown us how this can be done. One can hope it will be emulated across the land."* - Jerry Schneider, Professor Emeritus, University of Washington.

Cities21 delivers high quality results in the following areas:

- Policy development and economic analysis for transportation, land use, housing, and environmental sustainability
- Market research / product design:
  - Customer-centered new product design
  - Travel Demand Forecasting
  - "New mobility" system design
  - Advanced transit system and route design
  - Transportation Demand Management (TDM) / automobile trip reduction
  - Intelligent Transportation Systems Design, with specialty in train control systems, smart parking, location tracking, RFID, fare box interface
- Geographic Information Systems (GIS)
- 3D animation & transit simulation, with specialty in real-time, interactive virtual worlds
- Physical model design with specialty in lightweight, portable, full size replicas
- Social networking design

SUMMARY

Steve Raney is founder of Cities21.org, a nonprofit advanced transportation & smart growth think tank. He holds three masters: business, software, and transportation from Columbia, RPI, and Berkeley. He is the Principal Investigator for the U.S. Environmental Protection Agency's "Transforming Office Parks into Transit Villages" study of Pleasanton's Hacienda Business Park. He has conducted technology product research at Microsoft, Citigroup, and Silicon Valley start-ups. He was project manager for the Bay Area Rapid Transit system's Group Rapid Transit study. He designed a version of Cybertran's Group Rapid Transit train control system. He is the author of five Transportation Research Board papers. His "wireless carpool assistant," TrakRide, is patented. His recent conference presentations include TRB, Association for Commuter Transportation, Going!, Engineers for a Sustainable World, Intelligent Transportation Systems World Congress, Rail~Volution, Greenbuild Expo, and American Planning Association (California Chapter). He served as Training Coordinator for Habitat for Humanity.

INNOVATIVE RESULTS

Market Research / New Product Design

Suburban Car Trip Reduction Research for Palo Alto, Redmond, Emeryville, and Edina. Designed a rapid shuttle transit system and comprehensive "new mobility" service, complementing and significantly increasing the attractiveness of commuter rail, carpool, vanpool, bicycle, and bus commutes. Interview research was followed by in-depth stated preference surveys. Innovations include: immersive participant education, application of new technology product research techniques, full disclosure of commute behavior issues, "gap analysis" to validate specific attitudinal solutions, and customized door to door commute comparisons. Two TRB papers published.

> *"Our current transportation policy path in the U. S. is clearly unsustainable. Traffic, its environmental impacts and its impact on quality of life continue to get worse virtually everywhere in the country. Innovative new ideas and new approaches are badly needed. We need a portfolio of innovative approaches spread across the United States, with each one pushing the envelope towards a more sustainable future transportation system. Cities21 and its Suburban Silver Bullet should be in this portfolio. It is innovative; it is forward-looking; it addresses many key transportation challenges; and the potential benefits - if widely disseminated - are large."* - Stephen Offutt, U.S. Environmental Protection Agency.

Wireless Carpool Assistant – Self-published U.S. Patent #7136747 (all three claims accepted), issued 11/06. Title: Method for GPS carpool rendezvous tracking and personal safety verification. Abstract: Rendezvous tracking subsystem uses GPS-enabled cell phones communicating with an application server for tracking the whereabouts of carpool participants and for providing on-time status of participants en-route to designated rendezvous points. Safety subsystem can be used to verify safe arrival of participants at carpool destinations. Participants can configure safety subsystem by defining escalation rules and procedures to follow when safety critical events occur. (Also developed J2ME Nextel/Motorola i88s/i730 midlet and Java servlet software using JBuilder X.)

Smart Parking: Automated, Single-Operator Smart Parking Design for Office Parks. Designed permission-based restricted access parking management system for large office park with 100 parking lots, providing automated gate access, WiFi and license plate recognition driver identification, real-time available space reporting, and wireless guidance to unite drivers with spaces. ITSWC paper published.

Spatial Analysis / Mapping / 2D

City of South San Francisco GIS Journey to Work Analysis. Developed an innovative micro-scale journey-to-work analysis for improved transportation planning. Built coalitions with city staff, the congestion management agency, and the regional corporate lobby to obtain and aggregate employee addresses from understandably resistant employers. Developed privacy law precedents for fine-grained personal data collection and protection.

Palo Alto *GIS Journey to Work Analysis*. TRB paper published.

> *"Because of the upcoming Highway 101 Corridor Study and VTA's ongoing bus route planning, Palo Alto needed more accurate and more current commute data than other cities and transit agencies. We've accomplished this for a fraction of the cost it would have taken using a traditional transportation consulting firm. Compared to recent regional transportation studies our data is twenty times more precise and our participation rates are much higher,"* - Joe Kott, City of Palo Alto Chief Transportation Officer.

Flexpooling – a Cities21 invention to exploit moderately dense arterial corridor commute patterns. Flexpooling (a variation on dynamic ridematching and hitchhiking) brings workers together to reduce traffic along specific corridors. Workers with long commutes (and empty seats) spend a few minutes to pick up workers with shorter commutes. Cell phones and RFID help to tightly coordinate the rendezvous with passengers so they do not have to wait around. Taxis/buses also ply these routes during commute hours, helping to create a continuous flow of vehicles picking up commuters. Background checks, automated arrival verification, and reputation ratings ensure smooth, safe operation. Some Flexpool drivers leave the highway one exit early in order to make pickups. Paper published.

3D Animation and Physical Models

Microsoft Campus PRT (personal rapid transit) Animation: Project Lead for this three-minute "persuasive marketing" animation. Animation has now been downloaded from the web 46,300 times and the spread of the animation has been influential.

Palo Alto PRT Virtual City Simulation/Animation. Project Lead. Developed a detailed three-dimensional interactive 3DS MAX model of a large office park with 200 recognizable buildings, trees, roads, and a working micro-simulation of 300 small monorail vehicles, all updated in real-time via microsimulation at 30 rendered frames per second using Microsoft DirectX 3D engine. Managed an international development team spread across Beijing, Bombay, Seattle, San Francisco, and Palo Alto. Led fundraising efforts.

Advanced Transit Association's PRT Full Scale Model. Conceived and managed creation of a lightweight, portable full scale 33' long x 16' high x 3' wide elevated guideway model for visual impact studies. Evaluated many competing designs and lightweight materials. Resultant design uses 12" diameter plastic corrugated drainage pipe, a custom-machined aluminum tent pole tubing truss, and fabric sheaths. Displayed in Washington, D.C., UCLA, Eugene, Palo Alto, Milpitas, Pleasanton, and U.C. Berkeley.

Policy Development / Coalition Building

Traffic Reducing Housing Project. Traffic Reducing Housing (TRH) selects residents for new housing with fewer cars who will drive less. Pioneered TRH for U.S. condominiums at the 800 unit, $400 MM Peninsula Park development. Led a blue ribbon policy development team, including U.S. Department of Housing and Urban Development, Urban Land Institute, Fannie Mae Foundation, California State Department of Housing & Community Development, California State Senate Transportation and Housing Committee, Silicon Valley Leadership Group, National Association of Realtors, American Institute of Architects - Housing Policy Committee, National Housing Law Project, Sierra Club Transportation & Land Use Committee, and Reconnecting America. Developed new, less discriminatory housing preference precedent.

> "The most cost-effective traffic reduction strategy in the suburban United States." Jeff Tumlin, Principal, Nelson Nygaard Associates transportation consultants.

How to Bring Parking Charges to Suburban Offices. Uses "cities jump in together" "synchronized intention signaling" to reduce risk. Nationwide proposal stems from participation in Palo Alto's Green Ribbon Climate Protection Task Force.

Project Management

Principal Investigator, U.S. Environmental Protection Agency's "Transforming Office Parks into Transit Villages Study," teamed with U.S. EPA, Oracle, MTC (Bay Area Metropolitan Transit Commission), BART (Bay Area Rapid Transit District), Bay Area Council, Cambridge Systematics, City of Pleasanton, California Center for Land Recycling, Alameda County Congestion Management Agency, and East Bay Community Foundation. TRB paper published.

BART Group Rapid Transit (GRT) Investigative Study. Project Manager. GRT is an elevated, automated train system with 10- to 20-person vehicles. Coordinated project deliverables amongst BART, Port of Oakland, City of Alameda, consultant Kimley-Horn, and consultant PGH Wong. Analyzed technical feasibility of emerging Cybertran GRT system and reviewed Morgantown and Austrans GRT systems. Designed Cybertran's train control system based on BART's Advanced Automated Train Control system, utilizing spread spectrum radio ranging, WiFi, and guideway transponders. TRB paper published.

Community Based Social Networking

Low Mileage Communities (LMC). Invented social networking system for car trip reduction. Upon occupying new homes, LMC residents will pledge to reduce vehicle trips and mileage. The residents' efforts will be electronically monitored to measure the impact of behavioral changes. The system will combine online technology, as well as social marketing, to facilitate the evolution of a dual physical/cyber culture within these communities. Positive social reinforcement and shared good deeds will facilitate a green lifestyle. A national online network will share new inventions and best practices. "On their own, each ant's behavior is relatively useless, but when swarms of ants come together, the patterns optimize naturally and allow them to accomplish tasks that should be far beyond their reach." - Lessons from the Anthill blog. Verifiably reduced parking demand and mileage provides the economic foundation for this concept. Theory is based on: "TravelSmart" – neighborhood trip reduction, *The Tipping Point*, eBay philosophy, *Community Building on the Web*, *Textual Poachers*, *Supporting Communities of Practice: A Survey of Community-Oriented Technologies*, *The Different Drum*, *Augmented Social Networks*, *How to Change the World,* and the "Tragedy of the Commons."

> *"I would like to see the industry follow a path that leads to a lasting change in how people think about transportation. I am pleased to see the idea of seizing the Tipping Point that exists now in our society (longer commutes, greater commuter frustration, high gasoline and housing prices, a societal interest in being part of a community) being raised by Steve Raney."* Peggy Hetherington, TDM Consultant, Parsons Brinckerhoff.

EXPERIENCE

CITIES21.ORG, Palo Alto, CA. Advanced TDM/transit non-profit. *Executive Director.* 2001-Present.

PINNACLE SYSTEMS, Mountain View, CA. Digital Video Hardware/software. 1996-2001

Desktop Business Manger: Responsible for $15M annual revenue. Products: webcasting, 3D animation, "dual stream" motion JPEG video editing, and 3D special effects. Responsibilities included product marketing, product management, engineering project management, and OEM.

Product Marketing Responsibilities: Sales tools, public web, reseller web, data sheets, packaging, market research (focus groups, "peer" interviews), forecasts, seminar content/coordination, strategic partnering, sales demo videos, tradeshow participation.
Product Management Responsibilities: Business plans, requirements documents, engineering/SQA/tech pubs project management, manufacturing issues, white papers, training videos,

web based customer registration, web chat forums, web based beta testing. Consistent process innovator within Pinnacle.

MICROSOFT, Foster City, CA. 1994-1996 - *Video Tools Evangelist*.

VIDEOLOGIC, Sunnyvale, CA. Video editing / graphics hardware. 1991-1994
Product Manager/Developer Evangelist.

TARGA SYSTEMS, Hartford, CT. Presentation graphics software. *Co-founder*. 1985-1991

CITIGROUP, Hartford, CT. 1983-1985 - *Software Engineer*, presentation graphics / teleconferencing.

PUBLICATIONS

- "Major Activity Center PRT Circulator Design: Hacienda Business Park," TRB 1/07
- "Paid Automated Smart Parking Design for a Large Office Park," ITS World Congress, 11/05.
- "Network Transit for Edina, MN," Association for Commuter Transportation TMA Summit, 5/05.
- "PRT for Microsoft and Redmond," Cascadia Center's Breaking Gridlock with Technology Conference, 2/05.
- "Digital Hitchhiking," (the *Flexpooling* concept). Cascadia Center's Breaking Gridlock with Technology Conference, 2/05. Also presented at ACT 2005.
- "Application of New Technology Product Research to New Suburban Commute System Design and Validation," TRB 1/05, Transportation Research Record #1927.
- "Morgantown People Mover - Updated Description," TRB 1/05,
- "Suburban Silver Bullet: PRT Shuttle and Wireless Commute Assistant with Cellular Location Tracking," TRB 1/04, Transportation Research Record #1872.
- "Privacy-Protecting GIS Commute Shed Study," TRB 1/03.
- "Small-Suburb PRT Ballot Initiatives," TRB 1/03.

EDUCATION

- M.A. Transportation Planning, U. C. Berkeley (2001-2003)
- MBA, Columbia University, (1989-1991)
- M.S. Computer Science, Rensselaer Polytechnic Institute, (1988-1991)
- B.S. Computer Science, U. C. Santa Barbara. (1979-1983)
- B.A. Business Economics, U. C. Santa Barbara (1979-1983)

INTERESTS

- Training Coordinator, Habitat for Humanity.
- Member, Transportation Research Board (TRB) Major Activity Center Circulation Committee
- Member, TRB New Public Transit Systems and Technology Committee
- Board Member, Advanced Transit Association
- Member, Palo Alto Green Ribbon Climate Change Task Force
- Member, Congress for New Urbanism
- Member, Sierra Club South Bay Smart Land Use Committee
- Basketball leagues, Hair Club for Men