Guidance for Protected/Buffered Bike Lanes with Delineators: Literature Search

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Resources searched: Transport database, Web, MnDOT Library catalog, TRB Research in Progress

Summary: This literature search reflects results on protected and/or buffered bike lanes. Sometimes the phrase, “cycle track” is also used. The term “delineator” was not consistent in the results but it is included where found and relevant.

Most Relevant Results

Michigan Street Protected Bike Lane Demonstration Project (Duluth-Superior Metropolitan Interstate Council)
http://dsmic.org/study/pbl/

FHWA Separated Bike Lane Planning and Design Guide
https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/separated_bikelane_pdg/page00.cfm

Lessons from the Green Lanes: Evaluating Protected Bike Lanes in the U.S.

Minneapolis is Breaking Bicycling Ground with New Protected Lanes: Here’s What’s Working

Understanding Bicycle Markings in Minneapolis: A Guide for Motorists and Bicyclists

Minneapolis Plans Big Push for Protected Bike Lanes in City Core

Bikeways for Everyone: Protected Bike Lanes
http://www.bikewaysforeveryone.org/protected_bike_lanes

Title: Using Simulation to Assess and Reduce Conflicts between Drivers and Bicyclists.
URL: http://rip.trb.org/view/1459790

Abstract: Separated bicycle lanes, or cycle tracks, are increasing in popularity across the nation. When the Massachusetts Department of Transportation (MassDOT) became the first department of transportation (DOT) to publish a Separated Bike Planning & Design Guide, it provided evidence that separated bicycle facilities are likely to become even more common. Despite documented benefits of separated bike lanes, including safer cycling and increased ridership among differing populations of bicyclists, there remain ongoing concerns about potential conflicts between bicycles and vehicles when they merge back together at an intersection. The fear is that following a period of separation, drivers are less likely to anticipate and scan for the presence of bicycles.

This project will model the interaction between bicyclists and drivers at critical crossing points using microsimulation to identify commonly-occurring conflicts and then instantiate them in simulator scenarios that capture these problematic areas and traffic configurations. These scenarios will then be used to study driver behavior and help reduce conflicts.
behavior in a driving simulator and bicyclist behavior in a bicycling simulator. The project will evaluate different strategies for integrating bicyclists and drivers following a period of separation and document the specific behaviors that may impact safety. This project will advance understanding of how roadway design influences bicycling safety. The outcomes will inform the development of roadway designs that accommodate mixing of bicycles and motorized vehicles. The results of this study will also inform future work on the design of connected vehicles systems by identifying where this information is most needed.

While there has been a growing amount of support for bike lanes on urban and suburban roadways as levels of bicycling have increased in the United States, the safety issue between drivers and bicyclists has been recognized as one of the critical traffic safety problems recently. According to the National Highway Traffic Safety Administration (NHTSA), over 900 bicyclists were killed in 2013 in the U.S. and most bicyclist fatalities occurred in urban areas (70%). Moreover, bicyclist deaths occurred most often between 6 p.m. and 9 p.m. (20%). Bicyclists are generally using the shoulder of roadways and simultaneously riding next to vehicles. Therefore, there are higher chances of conflicts between bicycles and vehicles, and a serious injury crash can be occurred due to these conflicts. For this reason, nearly every major city has made an effort in recent years to install bike lanes to provide bicyclists’ own designated path. Since a bike lane is relatively new feature in urban roadway cross-section, implementation of bike lane would be challenging in different traffic conditions and its safety effectiveness has not been well examined.

Thus, there is a desperate need to identify and test roadway countermeasures to improve driver and bicyclist safety particularly for urban areas. In order to explore the safety impact of current roadway geometric designs and infrastructures on mixed traffic condition (i.e., bicycles and motorized vehicles), the research team will conduct comprehensive safety analysis using historical crash data and develop safety performance functions (SPFs) and crash modification factors (CMFs). Furthermore, the project will identify additional countermeasures (e.g., bike lane with wide width, physical separations, street lighting, roundabout, complete street, traffic calming techniques, protected intersection, etc.) from national and Worldwide experiences. Based on the results of crash analysis and identified countermeasures, a micro-simulation investigation will be assessed to study the impact of implementing different roadway cross-section designs under complexed urban traffic patterns. The outcomes will provide insights on understanding of how different roadway infrastructures and designs influence driver and bicyclist safety.

**Title:** Contextual Guidance at Intersections for Protected Bicycle Lanes.

**URL:** http://rip.trb.org/view/1420168

**Abstract:** Cities around the United States are increasingly seeking to modernize and enhance their bicycling infrastructure with the aim of accommodating a greater number of people who are willing to bicycle for transportation. Cities are employing separated (or protected) bike lanes in greater numbers (213 installations as of August 2015, according to the Green Lanes Project Protected Bike Lanes inventory). While the transportation industry is developing some consensus on midblock design approaches, there is less consensus on intersection design where most crashes occur. Efforts to address crash risk have focused on two main philosophies: 1) reduce separation prior to the intersection by channeling bicyclists toward motor vehicle traffic, and 2) maintain separation at intersections. The first philosophy is accomplished through creating mixing zones or truncated bike lanes, which increase mutual visibility and, in some cases, move turning motorists across through bicyclists prior to the intersection. The second philosophy is accomplished through separating movements in time (e.g., with a bike signal and protected phase) or, by maintaining protection to the intersection to channel bicyclists away from traffic to provide motorists additional space and time to see and react to cyclists (e.g., with protected intersections). Recent studies and guide books have contributed important data and design options (e.g. “Lessons from the Green Lane: Evaluating Protected Bike Lanes in the U.S.” and the “Separated Bike Lane Planning and Design Guide”); however a more thorough resource for protected bike lane intersection design selection and implementation is needed in order to ensure agencies are implementing the safest designs possible, and to bring consistency to designs around the country. The research team proposes to use its’ extensive experience evaluating protected bike lanes and other innovative bicycle facilities and strong relationships with the project partners (and in many cases, productive prior relationships evaluating
To create a timely and useful resource for selecting and implementing intersection designs for protected bike lanes, the proposal for this research consists of two phases. In Phase 1, the research team will identify and document a breadth of intersection design types, informed by a review of existing designs, literature, and current best practices. Upon the completion of Phase 1 and approval of Phase 2, the research team will prepare a draft work plan that includes a detailed task description, schedule and budget. This approach will allow us to identify and isolate successful design elements and potential countermeasures, and to develop a final report that will serve as a valuable tool for cities around the county.

Title: Bicycles and motorcycles [2015].

Citation: Transportation Research Board TRR 2520

Summary: Foreword -- Electric bicycle use and mode choice in the Netherlands / Aaron Lee, Eric Molin, Kees Maat, Will Sierzchula -- Evaluation of the passing behavior of motorized vehicles when overtaking bicycles on urban arterial roadways / Kushal Mehta, Babak Mehran, Bruce Hellinga -- Some operational features in bicycle traffic flow: observational study / Zhibin Li, Mao Ye, Zheng Li, Muqing Du -- When do drivers yield to cyclists at unsignalized roundabouts? empirical evidence and behavioral analysis / Ary P. Silvano, Xiaoliang Ma, Haris N. Koutsopoulos -- Rumble strip gaps for high-speed bicycles / Sarah Worth O'Brien, Kristy N. Jackson, Erik Vosburgh, Daniel Findley -- Neighborhood characteristics that support bicycle commuting: analysis of the top 100 U.S. census tracts / Robert J. Schneider and Joseph Stefanich -- Dynamic ventilation and power output of urban bicyclists / Alexander Y. Bigazzi and Miguel A. Figliozzi -- Assessment of bicyclist behavior at traffic signals with a detector confirmation feedback device / Jesse Boudart, Ryan Liu, Peter Koonce, Lisa Okimoto -- Modeling the impact of pavement roughness on bicycle ride quality / Calvin G. Thigpen, Hui Li, Susan L. Handy, John Harvey -- Design guidance for bicycle lane widths / Chris A. Fees, Darren J. Torbic, Karin M. Bauer, Ron Van Houten, Nathan Roseberry, John LaPlante -- Level-of-service model for protected bike lanes / Nick Foster, Christopher M. Monsere, Jennifer Dill, Kelly Clifton -- Business and bikeshare user perceptions of the economic benefits of capital bikeshare / Ralph Buehler and Andrea Hamre -- User behavior and perceptions at intersections with turning and mixing zones on protected bike lanes / Christopher M. Monsere, Nick Foster, Jennifer Dill, Nathan McNeil --

Using bicycle level of service for decision making: comparison of common bicycle level-of-service measures, roadway characteristics, and perceived bike route suitability / Influence of bike lane buffer types on perceived comfort and safety of bicyclists and potential bicyclists / Nathan McNeil, Christopher M. Monsere, Jennifer Dill - - Factors affecting drivers ability to detect motorcycles during daylight in a simulated environment / Mohammad Saad Shaheed, Dawn Marshall, Konstantina Gkritza -- Exploratory analysis of motorcycle incidents using naturalistic riding data / Vicki H. Williams, Shane B. McLaughlin, Sherry L. Williams, Tim Buche -- Measuring the use of motorcycle helmets: observational survey of motorcyclists in Florida / Chanyoung Lee, Joan Pino, Debbie Schultz -- Can time proximity measures be used as safety indicators in all driving cultures? case study of motorcycle safety in China / Ahmed Tageldin, Tarek Sayed, Xuesong Wang.

Title: Streetfight: handbook for an urban revolution

Author: Janette Sadik-Khan and Seth Solomonow.

Summary: A new street code -- The fight -- Density is destiny -- Setting the agenda -- How to read the street - - Follow the footsteps -- Battle for a new Times Square -- Stealing good ideas -- Bike lanes and their discontents -- Bike share : a new frontier in the shared economy -- Safety in numbers -- Sorry to interrupt, but we have to talk about buses -- Measuring the street -- Nuts and bolts -- The fight continues.

As New York City's transportation commissioner, Janette Sadik-Khan managed the seemingly impossible and transformed the streets of one of the world’s greatest, toughest cities into dynamic spaces safe for pedestrians and bikers. Her approach was dramatic and effective: Simply painting a part of the street to make it into a plaza or bus lane not only made the street safer, but it also lessened congestion and increased foot traffic, which improved the bottom line of businesses. Real-life experience confirmed that if you know how to read the street, you can make it function better by not totally reconstructing it but by reallocating the space thats already there. Breaking the street into its component parts, Streetfight demonstrates, with step-by-step visuals, how to rewrite the underlying “source code” of a street, with pointers on how to add protected bike paths, improve crosswalk space, and provide visual cues to reduce speeding. Achieving such a radical overhaul wasn’t easy, and
Streetfight pulls back the curtain on the battles Sadik-Khan won to make her approach work. She includes examples of how this new way to read the streets has already made its way around the world, from pocket parks in Mexico City and Los Angeles to more pedestrian-friendly streets in Auckland and Buenos Aires, and innovative bike-lane designs and plazas in Austin, Indianapolis, and San Francisco. Many are inspired by the changes taking place in New York City and are based on the same techniques. Streetfight deconstructs, reassembles, and reinvents the street, inviting readers to see it in ways they never imagined.

Title: Dixie Road Reconfiguration: Enhance the Safety and Comfort for All Road Users - A Collaborative effort with the community and stakeholders.
Author: Chung M
Citation: Conference Title: Kelowna 2016 - CITE Annual Meeting and Conference - Technical Compendium. Held: 00000-00000. 2016. 1 PDF file, 383 KB, 7p.
Abstract: Peel Region is one of Ontario's fastest growing regions, with population of over 1.3 million people and forecasted growth to reach 1.8 million people by 2031. Employment is expected to keep pace with population growth with employment forecasted to grow from 734,000 jobs in 2014 to 880,000 jobs by 2031. Recognizing the increase in population and jobs that comes with an expanded economy and the reality of constrained land area, the transportation system can only accommodate future travel by ensuring more people use sustainable modes of transportation such as transit, walking and cycling. Supports for the implementation of a bikeway on Dixie Road are well recognized in many Regional and City planning documents. A comprehensive approach has been undertaken to bring planning policy to implementation for the Region's first-ever buffered bike lanes with road reconfiguration that incorporates an urban streets approach to improve the safety and comfort for all road users. This includes completing a feasibility study, bringing stakeholders together to build consensus on a design plan, engaging the community, and leveraging on major infrastructure projects for implementation. The recommended design is a lane reconfiguration on Dixie Road from a four lanes arterial road to a two lanes road, centre left turn lanes, and buffered bike lanes to provide a complete streets approach. The project will be monitored to see the effectiveness of implementation.

Title: Design Elements at Cycle Track Intersections.
Author: Bryant Edgar; Deutsch Heather; Goodno Michael
Citation: ITE Journal. 2016/9. 86(9) pp 36-43(Figs., Refs., Tabs.)
Abstract: To encourage safe bicycling, separated/protected bicycle lanes known as cycle tracks can be employed, but design and construction can be difficult. Six early cycle track intersection designs employed in the United States are analyzed as a basis for design standards for North America. Five intersection design elements are profiled including on-street parking setbacks, lateral deflection, mixing zones, bicycle signals, and conflict zone treatments.

Title: Coasting through: Everyone goes with the flow across protected intersections.
Author: Granitto Diana
Citation: Public Works. 2016/4. 147(4) pp 17-19(Phots.)
Abstract: In the past five years, the number of protected bicycle lanes, also called cycle tracks, has more than tripled. However, when cyclists reach an intersection, the buffers that separate bike lanes from car traffic disappear, leaving bicyclists on their own and unprotected. The solution to this problem is an intersection design that guides cyclists, drivers, and pedestrians through seamlessly, with a layout that improves sightlines and continues the protected lane. Several such intersections have been built in the past year in several cities, including Davis, California and Salt Lake City, Utah, as presented in this article.

Title: Building Equity: Race, Ethnicity, Class and Protected Bike Lanes: An Idea Book for Fairer Cities.
Citation: 2015. 35p
Abstract: Cities have often failed to equitably distribute the costs and benefits of mobility. Many U.S. cities are using protected bike lanes to help make bike transportation a mainstream part of urban American life. To avoid repeating mistakes from the past, planners who advocate for bike lanes are seeking guidance on how to incorporate transportation justice into their efforts and how to combine bike infrastructure improvements with other issues to diminish inequities. This report profiles ten individuals from around the country who are advocating for improvements in their communities. It also provides data-based evidence of the role protected bike lanes have played in advancing equity.

Title: Seattle taking steps to increase bicycle ridership and safety: city’s master plan includes dozens of miles of protected bike lanes.
Citation: Urban transportation monitor (Online). 2014/5/23. 28(4) p. 4-5(Illus.)

Title: Protected Bicycle Lanes in NYC.
Citation: 2014/9. 31p
Abstract: This report analyzes the effects of installing protected bicycle lanes on selected routes in Manhattan. Some of the routes are parking protected bicycle lanes. Statistics show that even with a dramatic increase in cycling, crashes and injuries for both bicyclists and pedestrians have decreased. Travel speeds have remained steady while travel times have decreased. When compared to similar corridors, streets with protected bicycle lanes saw a greater increase in retail sales.

Title: Pedestrian Injuries Due to Collisions with Bicycles in New York and California.
Author: Tuckel Peter; Milczarski William; Maisel Richard
Citation: Journal of Safety Research. 2014/12. 51(0) pp 7-13(Refs.)
Abstract: Scant attention has been given to pedestrians injured in accidents resulting from collisions with cyclists. This study examines the incidence of pedestrians injured by cyclists in New York between 2004 to 2011 and in California from 2005 to 2011. The study also profiles the pedestrians injured in these two states during these two time frames. The data for this study are based upon patient-level hospital records from New York and California. The data for New York comes from the Statewide Planning and Research Cooperative System (SPARCS) under the auspices of New York State’s Department of Health. The data for California come from two sources: the Healthcare Cost and Utilization Project (HCUP) and the California Office of Statewide Health Planning and Development. The rate of pedestrians injured in collisions with cyclists has decreased over time. Two possible explanations for this decline are: (a) less exposure of children to cyclists, and (b) improvements in the cycling infrastructure. Although the rate of injuries to pedestrians in collisions with cyclists has decreased, improvements to the cycling infrastructure will need to continue. Bike lanes, particularly protected bike lanes, have been shown to be an effective way of reducing cycling-pedestrian accidents. The results of the current study are consistent with this research. Educational campaigns aimed at cyclists that emphasize the safety of all road users - including pedestrians - will also need to continue to assure that this downward trend in the number of accidents is not reversed.

Title: Protected Bike Lanes Mean Business: How 21st Century Transportation Networks Help New Urban Economies Boom.
Author: Andersen Michael; Hall Mary Lauran
Citation: 2014. 36p
Abstract: This report looks at economic growth, bicycling, and the benefits of protected bike lanes. It presents case studies from five United States cities highlighting protected bike lanes and their impact on: urban development, health care costs, competition for workers, and use of public street space to benefit local businesses.
Title: Six cities selected for protected bike lanes: selected cities will receive technical assistance and participate in a partnership.
Citation: Urban transportation monitor (Online). 2012/6/29. 26(5) p. 2-3(Illus.)

Title: Portland’s innovative bike facilities are working, but have some operational problems: confusion on the use of buffered bike lanes by motorists and pedestrian-bike conflicts on cycle track are some problems.
Citation: Urban transportation monitor (Online). 2011/3/14. 25(2) p. 7(Illus.)

Title: Multi-User Perspectives on Separated, On-Street Bicycle Infrastructure.
Author: Monsere Christopher M; McNeil Nathan; Dill Jennifer
Citation: Conference Title: 91st Annual Meeting. Location: Washington. Sponsored by: Transportation Research Board. Held: 20120122-20120126. 2012. 15p(Figs., Refs., Tabs.)
Abstract: In the early fall of 2009 the City of Portland Bureau of Transportation (PBOT) installed a cycle track and a pair of buffered bike lanes in downtown Portland. A major objective was to test facilities that were thought to bring higher levels of comfort to bicycle riders through increased separation from motor vehicle traffic. After one year of use, an evaluation was conducted to understand how the facilities affected the experience of the various users, including intercept surveys of cyclists, motorists, pedestrians and adjacent business. The surveys found improved perceptions of safety and comfort among cyclists, particularly women. Cyclists also preferred the new facilities over alternative routes and facility types. Both motorists and cyclists liked the additional separation of the users. Motorists were more likely to attribute additional travel delays and inconvenience to the facilities; this was especially the case for motorists who never ride a bicycle and those surveyed on the buffered bike lane facility. Pedestrians liked the increased separation from traffic but had concerns about interactions with cyclists when crossing the cycle track. Businesses expressed support for these and other new bicycle facilities, but had concerns about parking and deliveries.

Author: Pucher John; Buehler Ralph
Abstract: This research report reviews trends in cycling levels, safety, and policies in large North American cities over the past two decades. The authors analyze aggregate national data as well as city-specific case study data for nine large cities (Chicago, Minneapolis, Montreal, New York, Portland San Francisco, Toronto, Vancouver, and Washington). The number of bike commuters in the USA rose by 64% from 1990 to 2009, and the bike share of commuters rose from 0.4% to 0.6%. Over the shorter period from 1996 to 2006, the number of bike commuters in Canada rose by 42%, and the bike share of commuters rose from 1.1% to 1.3%. From 1988 to 2008, cycling fatalities fell by 66% in Canada and by 21% in the USA; serious injuries fell by 40% in Canada and by 31% in the USA. Cycling rates have risen much faster in the nine case study cities than in their countries as a whole, at least doubling in all the cities since 1990. The case study cities have implemented a wide range of infrastructure and programs to promote cycling and increase cycling safety: expanded and improved bike lanes and paths, traffic calming, parking, bike-transit integration, bike sharing, training programs, and promotional events. The authors describe the specific accomplishments of the nine case study cities, focusing on each city’s innovations and lessons for other cities trying to increase cycling. Although cycling has almost doubled in New York City since 1990, it lags far behind the other case study cities in almost every respect. It has the lowest bike share of commuters, the highest cyclist fatality and injury rate, and the lowest rate of cycling by women, children, and seniors. New York has built the most bikeways of any North American city since 2000 and has been especially innovative in its use of cycle tracks, buffered bike lanes, bike traffic signals, bike boxes, and sharrowed streets. Yet New York has almost completely failed in the important areas of bike-transit integration and cyclist rights and falls far short on bike parking and cycling training. Moreover, the refusal of New York’s police to protect bike lanes from blockage by motor vehicles has compromised cyclist safety. New York has much to learn from the other case study cities, which have implemented a far more comprehensive, integrated package of mutually reinforcing policies to promote cycling.
Title: **Buenos Aires Bikes!**

Author: Holub Amalia

Citation: Sustainable Transport. 2010. (22) pp 33-35(4 Photos.)

Abstract: In 2007, the city legislature of Buenos Aires passed the “Public Bicycle Transportation System Law.” The law mandates the creation of a bicycle share network along with bicycling infrastructure. The city government has been focusing first on infrastructure. Over the last year, 30 km of protected bike lanes have been constructed, with the full 100 km network slated for completion by the end of 2011. A bike-share pilot program of 500 bikes is expected to launch in early 2011. In addition, a program called Mejor en Bici (Better by Bike), includes more bike parking in public plazas and transportation hubs, bike-to-work programs and online- and print-media outreach. The city has also passed a law requiring parking garages to accept bicycles. There is more work to be done before Buenos Aires becomes a world-class bicycling city, however. To become a functional part of the transportation system, bike lanes will have to be connected across a broad network that spans and links popular areas. The public needs to be convinced that such transportation initiatives are worth funding and that bicycling is a desirable mode of transportation. Bicycle sales are up 50% in Buenos Aires from the same time last year, indicating that the Mejor en Bici program is having a positive effect.

Title: **Evaluation of Innovative Bicycle Facilities: SW Broadway Cycle Track & SW Stark/Oak Street Buffered Bike Lanes.**

Author: Monsere Christopher; McNeil Nathan; Dill Jennifer

Citation: 2011/1/14. 89p(2 Apps., 22 Tabs.)

Abstract: Two innovative bicycle facilities installed in late summer and early fall 2009 in downtown Portland by the City of Portland Bureau of Transportation (PBOT) were evaluated to understand how they are functioning on multiple levels. Both of these facilities involved removing a motor vehicle lane by restriping to provide additional roadway space to bicyclists. The cycle track is a seven-foot bike lane separated from motor vehicle traffic by a row of parked cars and a painted three-foot pedestrian buffer. The couplet of buffered bike lanes consists of six-foot bike lanes with a two-foot painted buffer on either side separating them from motor vehicle traffic. The facilities were evaluated after they had been in place for approximately one year. Data collected to support this evaluation consisted of surveys of multiple user groups for each facility type and video data collected by PBOT at intersections along each of the routes to understand the facilities’ impact on traffic flow, operations and user interactions. A summary of the cycle track findings based on results of the motorist, pedestrian and cyclist surveys, analysis of video data, and comment logs is as follows: cyclists expressed support for the cycle track; motorists generally expressed support for the cycle track; motor vehicle delay is still low after removing one travel lane; cyclists are using the cycle track rather than the motor vehicle lanes; cyclist understanding of and compliance with the traffic signals on SW Broadway is poor; cyclist use of the left-turn boxes could be improved; cyclist and pedestrian conflicts are high; a measurable change in cycle volumes was not detected; and loss of curb access presents a challenge to physically handicapped persons. A summary of the buffered bike lane findings based on results of the motorist, pedestrian and cyclists surveys, analysis of video data, and comment logs is as follows: more cyclists are choosing to ride on SW Oak and SW Stark; cyclists expressed support for the buffered bike lanes; understanding of when motor vehicles can be in the buffered bike lane is poor; motorist actions when turning right without a right-turn lane are inconsistent; motorists feel that the buffered bike lanes have made driving on SW Stark and SW Oak more challenging; motor vehicle delay has increased, but it is still acceptable; and businesses that responded to the survey support bicycle routes, but have concerns about loss of access.

Least Relevant Results
Title: Roads for All.
Author: Vock Daniel C
Citation: Governing. 2015/10. 29(1) pp 46-50(Illus., Photos.)
Abstract: Reshaping urban boulevards, small-town main streets and even rural highways, the 'complete streets' movement is taking off; however, challenges remain. Designed to slow cars down, complete streets rework roads in order to accommodate bicyclists, pedestrians and transit users. The small city of West Jefferson, NC's experience is discussed, as well as that of major cities, such as New York, Los Angeles and San Francisco. The importance of working with local communities to match interests is highlighted with the case of Wisconsin and a working class Milwaukee suburb called West Allis. The issue of adding protected bike lanes is discussed throughout, along with the complications of costs and bicyclist safety. The ultimate goal is to create a space where transportation is used as little as possible - a mesh of bikable, walkable transit-oriented places.

Title: Exploring a new world.
Author: Zagoudis Jeff
Citation: Roads & Bridges. 2014/8. 52(8) pp 38-41(Figs., Maps.)
Abstract: Ponce de Leon Avenue in Atlanta, Georgia is an integral part of the Atlanta Beltline project, which is a huge urban redevelopment effort by the Georgia Department of Transportation (GDOT) and the city to revitalize the region. The goal is to transform the avenue into a complete street. The decision behind this transformation was driven by the fact that it is a heavily traveled commercial corridor, which also sees heavy bicycle use. The accident rate was among the highest in the city, and this, along with a number of pedestrian accidents, prompted the complete streets project plan. Pedestrian-oriented improvements include the following: four new vehicular travel lanes; new Americans with Disabilities Act (ADA)-compliant sidewalks; buffered bike lanes; and a new landscape strip acting as a layer of separation between pedestrians and vehicles.