Hello Video Analytics Partner –

We appreciate your interest in our Video Analytics Towards Vision Zero Partnership. You are receiving the project update below because of your current (or potential) involvement in this partnership (see: ITE Journal Article).

The project update is intended to keep you apprised of milestones and activities and create a sense of common purpose among our corporate, government, research, and non-profit partners. We will strive to send out updates monthly.

Please let me know if you have comments or questions about any information in the project update or if you would like to be removed from our email list.

Thank you,
Franz

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City of Bellevue
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VIDEO ANALYTICS TOWARDS VISION ZERO PARTNERSHIP UPDATE

September 2017

New Partners

As the leading standards developing organization for mobility engineering, SAE International is creating a committee dedicated to developing open, consensus standards on surrogate measures of safety. Traditional road safety analysis is reactive as it relies mainly on historical crash data. Surrogate safety analysis offers a proactive approach to road safety analysis by studying traffic events that are related to traffic crashes and safety but more frequent than crashes. Many participants of the Video Analytics Towards Vision Zero Partnership plan to engage in this SAE committee to develop standards for terms and definitions as well as techniques. Please stay tuned for development of this committee and its work. For more information, please contact Annie Chang at SAE (annie.chang@sae.org).

Unity Technologies, the Universitat Autonoma de Barcelona (UAB), and the Computer Vision Centre (CVC) will generate realistic synthetic images with pixel-level annotation to speed-up the process of training our partnership's deep-learning algorithms. Microsoft will evaluate the efficacy of this Synthia dataset to enhance the accuracy of the machine learning systems under development in classifying objects into relevant categories – people walking, bicycling, or driving cars. If this approach, used in the autonomous driving industry (see research study), improves the classifier accuracy of the video analytics platform it will also be leveraged to assess near-miss events in the Video Analytics Towards Vision Zero Partnership. For more information, please contact Jose De Oliveira at Unity Technologies (josed@unity3d.com).

Conferences

We are looking forward to sharing information on the Video Analytics Towards Vision Zero Partnership at the following upcoming events: MetroLab Network Annual Summit, American Society of Civil Engineers Annual Convention, and the ITS World Congress. We are grateful to these organizations for providing us an opportunity to speak at these forums. Please contact Franz Loewenherz at the City of Bellevue (floewenherz@bellevuewa.gov) if you would like to discuss collaboration opportunities at one of these upcoming events.

Crowdsourcing Initiative

Since the launch of the Video Analytics Towards Vision Zero crowdsourcing initiative over 500 people have volunteered to annotate existing traffic footage via the platform. The crowdsourcing initiative has enhanced the object classification accuracy of the machine learning system under development. People walking and bicycling are now accurately recognized 90% of the time when grouped together into a non-motorized object category. Microsoft continues to make refinements to the system to achieve a +90% segmentation accuracy between these two non-motorized user categories. We hope all of you will continue to help us promote this crowdsourcing initiative via Facebook, Twitter, and other communications channels (see City of Bellevue Media Release).

Traffic Analytics Dashboards

Traffic analytics dashboards developed by Microsoft are operational in the City of Bellevue's Traffic Management Center (and accessible in Chrome or Firefox browsers at http://vavz.azurewebsites.net/). The dashboards depict count reporting infographics based on raw video footage from Bellevue's traffic cameras. The video analytics platform accurately classifies vehicles by turning movement (through, left, or right) and by direction of approach (northbound, southbound, etc.).
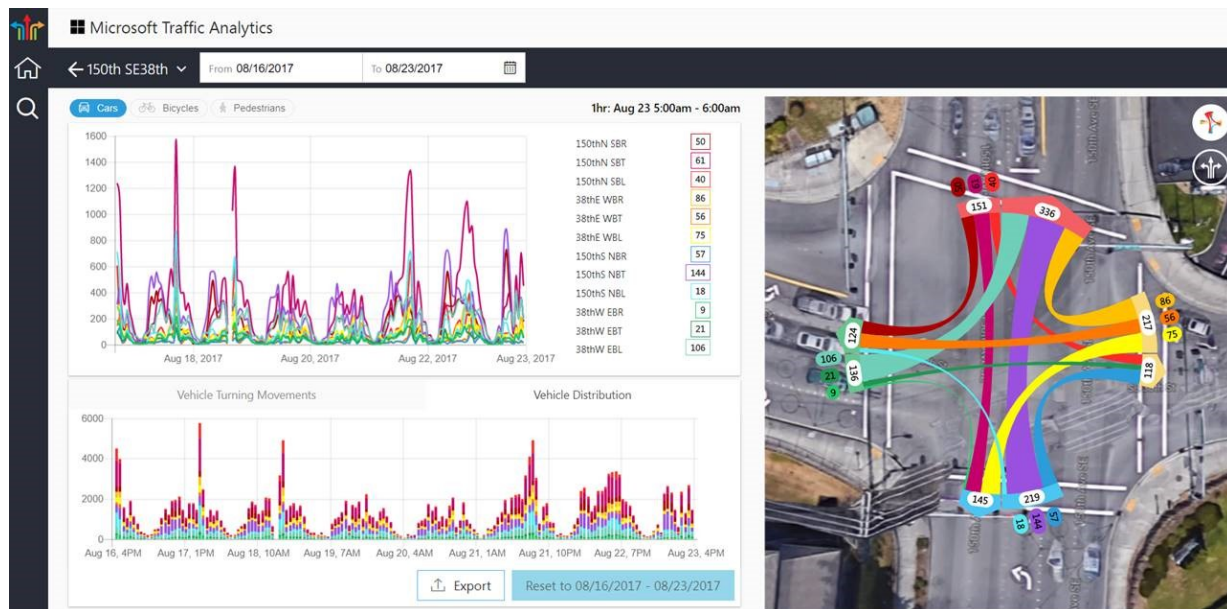
At this time the dashboards reflect motor-vehicle data only. The Microsoft team is working on the platform to enhance the object classification accuracy for people walking and bicycling. Additional refinements underway include incorporating alert features into the dashboard that would provide Traffic Management Centers with tools to manage the transportation network better (e.g., leveraging traffic volume data to flag locations where congestion is occurring).

Microsoft is interested in working with project partners to refine the user expectations and design solutions for visualizing the data derived from municipal traffic cameras. If you are interested in collaborating with us in proposing refinements to these traffic analytics dashboards, please contact Ganesh Ananthanarayanan at Microsoft (GA@microsoft.com).

We appreciate your support!