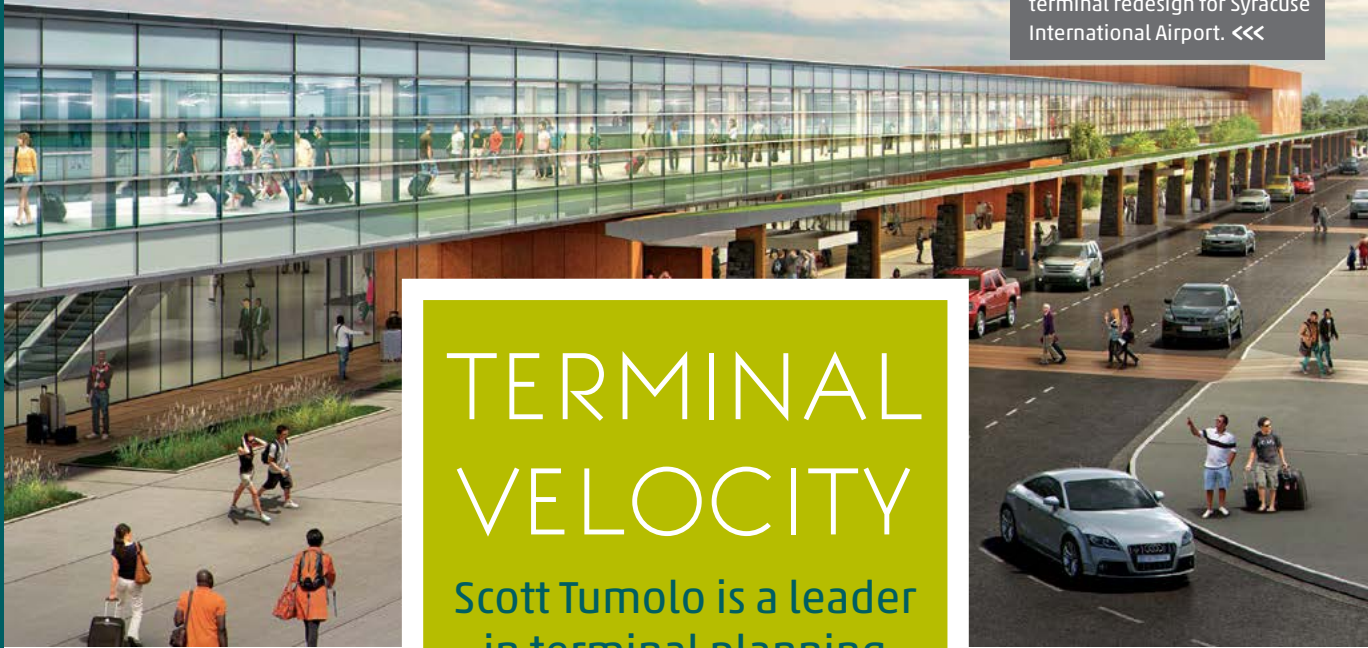


>>> C&S is working with Gensler to develop a major terminal redesign for Syracuse International Airport. <<<



TERMINAL VELOCITY

Scott Tumolo is a leader in terminal planning

Scott Tumolo recently joined C&S as terminal planning manager, and opened our new San Francisco office. He brings 15 years of terminal planning experience at airports across the US and around the world. We get to know Scott and his expertise with a Q&A session.



The terminal building is a defining aspect of the travel experience for most passengers. While sponsors, planners, and engineers look at the airport as a whole, balancing airside and landside infrastructure needs, the public's perception of an airport's functionality and personality is shaped by their interaction with and experiences in the terminal building. Terminal planning must take into consideration all of the mandated safety and operational requirements, while balancing user experience and comfort—all within available budgets. As technology, FAA and state-level guidelines, and sponsor funding levels continue to evolve, terminal planners help airports identify the most functional, cost-effective, and forward thinking strategies for maximizing terminal assets.

>>> **What one aspect of terminal planning stands out as the most important?** There are a lot of fundamentals that carry over to each project, but the key is recognizing that each individual airport has their own

top priorities—solving a client's unique issues is always paramount.


>>> **Is there an aspect of terminal planning that is often overlooked?** There is a lot of focus on technology and the evolution of terminal facilities. One thing that is often overlooked is that not every traveler has the same profile. For example, while the majority of passengers may use their cell phone to

check-in and bypass the check-in lobby completely, there is still a portion of the population who expects traditional methods and these passengers need to be considered.

>>> **What key changes have you noticed in terminal planning over the past decade?** Four big changes are:

- 1 The mobile technology revolution has fundamentally changed how passengers use and experience terminal facilities. The impact is to most functional terminal areas, but particularly the check-in lobby.
- 2 Planning for a flexible facility—This is a change in how airports think; they no longer cater to one airline or one type of passenger. Plus, since the 2009 financial crisis and traffic reductions, airports are trying to develop facilities that





"I love the beginning of a new project, when I'm working closely with the client to dream big."

can be functional in multiple unforeseen scenarios to avoid the need to have several costly infrastructure projects in a short period of time.

3 Constant evolution in security procedures creates the challenge of trying to anticipate future TSA regulations or new security threats while maintaining an intuitive passenger flow through a facility.

4 The industry trend that has moved significant portions of airport concessions (food and beverage, and retail) to post-security areas. This has increased revenue and overall passenger experience at the airport, but has the concession allocation split gone too far?

>>> **What changes do you anticipate in the future?** The check-in lobby evolution will continue, with airlines and airports testing various scenarios until they master the most efficient, passenger-friendly process. Also, behind the scenes, the way baggage is carried through the airport, whether pre- or post-security is evolving quickly with rapid-speed conveying systems.

>>> **Your first project with C&S is terminal planning for Portland International Airport. How does your work fit into the overall strategy for the airport?** I've been working at PDX for the last three years on various terminal projects, including the Terminal Area Master Plan, multiple concourse optimization studies, and on the Concourse E design team. As one of the go-to terminal planners for the airport, I advise them on most terminal related projects. Right now, the terminal and landside areas are the critical locations that PDX is focused on improving, so we are a part of decisions that will fundamentally change PDX for the next 25+ years.

>>> **How does your terminal planning skill set integrate into the rest of C&S's aviation practice?** This brings another dimension to our planning group, adding depth to our master

planning services, enabling us to lead terminal area planning assignments, and work with architects during the design phase. The aviation consulting industry is evolving to provide complete end-to-end services for clients. Airside and landside infrastructure projects have ripple effects into the terminal building. A runway extension opens up opportunities for larger planes to more destinations, which leads to increased passenger volume in the terminal building. A new public transit hub at an airport can change the peak flow volume of the security screening area. C&S can now help clients more effectively and accurately see the terminal-related effects of large infrastructure projects.

>>> **How does your background in architecture influence you as a terminal planner?** My life has been heavily influenced by the opportunity to travel as a child and an adult. I always knew that I wanted to be involved in airport terminals, whether it be in design or otherwise. I studied architecture in college, and the transition to terminal planning was easy because a lot of the concepts, space programming to physical layouts, are very similar. Planning is more high-level strategy, with fewer nuts and bolts, which matches my personality and skill set.

>>> **What aspect of a project do you look forward to most?** I love the beginning of a new project, when I'm working closely with the client to dream big. At that point, there are no constraints, only imagination about how to solve a problem. Developing the big picture concepts with the client is very rewarding.

>>> **What is your favorite vacation destination?** I have been fortunate that travel has always been a huge part of my life, whether it was as a kid, when both my parents (teachers) drove us around the country from one national park to the next, or as an adult, taking the family all across the world. It is hard to pick just one place, but my favorite places to vacation are Lake Tahoe, New York City, Maui, and Barcelona.



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Scott is C&S's terminal planning manager and leads C&S's San Francisco office. He is an emerging leader in the field, and has worked with more than 25 small to large hub airports, assisting them in creating innovative terminal development strategies that meet projected passenger demand, but maintain financial feasibility and promote environmental stewardship.

A settlement has been reached between the US Environmental Protection Agency and Volkswagen over the sale of approximately 500,000 motor vehicles with engines equipped with computer software designed to cheat on federal emissions tests. A \$4.7 billion portion of the overall \$10 billion settlement has been set aside for environmental projects:

- \$2.7 billion to establish and fund an Environmental Mitigation Trust
- \$2 billion to invest in zero-emission vehicle (ZEV) initiatives

C&S's initial research indicates that this funding can potentially be used by airports and/or airlines to replace diesel emission sources with cleaner technology to reduce oxides of nitrogen and other pollutants. The settlement specifically identifies airport ground support equipment (GSE), shuttle buses, and light-duty power supply equipment as eligible emission mitigation actions. Projects undertaken by government entities can potentially receive 100% reimbursement for the equipment, including installation and charging infrastructure. Non-governmental entities

CLEAN VEHICLE FUNDING

VW settlement money
available for emission
reduction initiatives

may receive up to 75% reimbursement, depending on the project. Eligible vehicles under the ZEV initiative include battery electric vehicles, fuel cell vehicles, and on-road plug-in hybrids with a zero emission range of greater than 35 miles.

The Environmental Mitigation Trust is expected to become effective in the first half of 2017. States must apply for the funds and create a mitigation plan summarizing the intended use of its allocation, expected benefits, and public outreach. Funding of projects will be designated to each state. We recommend that airports and airlines interested

in this funding begin a dialogue with state planning and/or regulatory agencies. C&S can assist you in identifying projects, determining anticipated emission reductions, and coordinating with regulatory agencies.

Detailed guidance and deadlines have yet to be established and may differ among individual states. C&S is continuing to research funding eligibility, availability, and requirements and will provide periodic updates to the aviation industry.

To learn more information about the Volkswagen settlement and funding opportunities, visit epa.gov/enforcement/volkswagen-clean-air-act-partial-settlement



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COMPETITION AND COOPERATION

by Michael Hotaling



I am fascinated with the accomplishments of high-performing teams of all kinds. This summer we have been treated to exceptional examples in the field of athletics.

The Tour de France covered 2,193 miles over 21 stages in July. Great Britain's Chris Froome won by a margin of just four minutes and five seconds. But, he didn't do this alone—his eight other Team Sky teammates worked in perfect synchronization. Even though Froome crashed twice, his committed teammates helped him win his third Tour de France title in four years. Just last month at the Olympics, the U.S. women's gymnastics team won the team competition by a margin of more than eight points. The total margin between second-place Russia and eighth-place Brazil was just four points. While different from a team cycling race, the need for the gymnasts to work together to achieve this level of success is no different.

What I find most interesting about both of these events is that while these competitors work together as teammates in these competitions they also routinely compete against each other during other events or times of the year. Putting aside their differences and redirecting their competitive energies toward a common goal requires enormous sacrifice and commitment to that goal.

There's a parallel within the aviation industry. Individual airport sponsors and trade associations often have agendas that may not be synchronized. However, the current level of cooperation and coordination between airports and the associations focused on FAA reauthorization is encouraging. Stumbles may happen and the margin of success may be razor thin, but the high-performance teamwork that is occurring inspires optimism for the future of aviation.



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Michael is C&S's senior vice president and aviation practice leader. He collaborates with a team of nearly 100 professionals dedicated to providing aviation planning, environmental and sustainability, engineering, and construction phase services from offices nationwide. Contact him to learn more about our team and how we can help you solve your challenges.