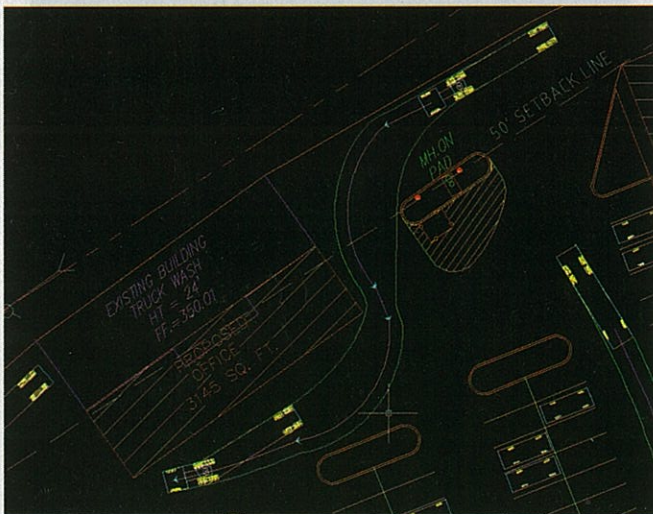


Application stories

ROYAL REDESIGN

Coach company expands facilities without increasing space



Bogia Engineering Inc. (BEI), a full service civil engineering firm makes it company policy to complete swept-path simulations and analysis on all of their vehicle-related projects while they are still in the concept phase.

Majesty Coach in Berks County, Pa., wanted to expand its facilities to include a warehouse, office space, a bus and limousine garage and employee parking facilities. For this project it was clear that vehicle circulation would be a major constraint, since a truck wash center and mechanic's garage already existed on the project site. Consequently, being able to drive different sizes and types of vehicles through the different concepts was a necessity.

Early design iterations had trucks docked at the warehouse blocking access to the bus and limousine garage. As a result of the conflict of space for maneuverability it was thought that the garage facility would be scrapped from the plans. Transoft Solutions' AutoTURN allowed BEI designers to work quickly and try various options. In the process, the software also showed where conflicts arose.

"The ability to design vehicles to custom specifications . . . let us work with data from limousines the client already owned," said Donald Haas, CADD manager. "We knew the minimum turning area a limo required and were able to add the building in previously unusable area."

With a clear understanding of the site's space constraints and working with the client a main avenue of travel was plotted and then manipulated to fit around the buildings. Once this path was established, the resulting plan would leave the main path for trucks docked at the warehouse loading bays unobstructed. This also created a maneuvering area for the bus and limousine garage as well as giving the existing truck wash and mechanic's garage facilities better layouts. Additionally, the remaining area was usable for storm-water facilities and employee parking.

"Onsite, the space was tight in front of the mechanic's garage, and cars waiting to enter a repair bay would block traffic trying to enter or exit the truck wash," said Haas. Before BEI's redesign of Majesty Coach's site, trucks that entered the site were committed to going through the truck wash or backing out onto the street. The new layout has room for trucks to queue up and a bypass area if they decide not to enter the facility. Haas added, "Now there are no issues."

"The small office building requires delivery trucks and garbage pickup," said Haas. "It's just as important to know that space used for small trucks that visit occasionally is as well planned for those clients as it is for warehouse facilities that have dozens of trucks visiting each day."

Using the software and working with the swept-path movements allowed BEI to expand the building envelopes and create a more efficient site, for physical maneuverability, cost effectiveness and value.

It is because of projects like the redesign of the Majesty Coach site that BEI uses AutoTURN on almost every project they design. On larger projects, BEI has noticed an increase in municipalities wanting to see truck turning movements as part of the approval process. A "Truck Turning Plan" is becoming a common element in their plan set.