

The Art of Linear Precision

Tilos Is Changing Mega-Projects Management

How a specialized planning tool helped keep a 1,800+ kilometre pipeline moving through political chaos, extreme terrain, and unforgiving schedules.

By, Phillip Stainton

The night the lights went out across Ankara, Andrew Pucci thought the mega-project might stop cold.

Fighter jets roared overhead, sonic booms cracked through the air, and tanks rolled through the streets. The attempted coup of 2015 had thrown Turkey into chaos while Pucci was working as Planning Manager, overseeing one of the largest natural-gas pipelines on Earth.

"We were managing 1,811 kilometres of pipe across the country," he recalls. "Seven steel mills feeding us materials, thousands of workers in motion, and an attempted overthrowing of the government happening outside the hotel window."

But even as the country convulsed, the TANAP Pipeline kept advancing. Trucks by the hundreds were required to deliver the specially made pipes, each one needing to arrive at the right place and at the right time into the arms of crews already in place.

And one of the reasons all of this succeeded through the chaos... was Tilos.

"Tilos saved the integrity of the project more than once," he says. "We could re-sequence, re-forecast, and keep everything synchronized, even when the world went sideways."

Pucci, 52 and a veteran of project controls and linear construction, is now Director at Planning Earth Canada. Currently based in Calgary, he has worked on more than 5,000 kilometres of pipeline, from oil and gas to water infrastructure. But nothing compares to TANAP.

Imagine a pipeline spanning Turkey that included 1,400 kilometres of 56-inch pipe and over 400 kilometres of 48-inch pipe (of that 2 x 17.5 kilometre sections passing below the Marmara Sea). TANAP was the largest diameter pipeline in the Middle East and Europe.

And the potential for peril was high. Engineers confronted very active seismic zones, mountains, rivers, sub-zero winter

temperatures, extreme heat in the summers, and all variety of natural obstacles.

"You can only fit two 56-inch pipes on a single truck," he says. "So imagine the precision required just to move it, let alone build it."

Coordination was an art form. "Every pipe was tracked in Tilos," Pucci explains. "That's roughly 131,620 pipes... 131,620 activities. Every week we'd visualize progress for the client, and everyone could instantly see where we stood. It was beautiful."

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Moving From Spreadsheets to Spatial Intelligence

Pucci started his career in the pre-visualization era. "We used to track things with a program called Marathon," he laughs. "Basically a glorified spreadsheet. Then Tilos came along and it changed everything."

Unlike traditional Gantt charts, Tilos merges time and distance, mapping every activity along the actual geography of the project. "In a Gantt chart, you don't see the rivers, the rock, the terrain," Pucci explains. "In Tilos, you can overlay topography. We'd shade hard-rock zones darker grey to anticipate blasting. We'd mark rivers and protected species for environmental tracking. It's fantastic for ecological and regulatory management."

He pauses, then adds with conviction: "If I had to choose between P6 and Tilos, I'd use Tilos every day of the week. On pipelines, bridges, anything linear... it's the way forward."

“Tilos helps visualize people, equipment, resources, distances, and materials. It’s been invaluable.”



The Daily Challenge of Managing Camps, Climate, and Crew Morale

Pucci’s admiration for the tool deepened while he was on a 750-kilometre pipeline project in South Africa, where the landscape and the weather changed dramatically.

“Rainfall varied from Johannesburg to Durban,” he says. “We used Tilos to plan around climate, showing clients exactly how rain-induced delays or shifting conditions would affect productivity.”

But what truly stood out was the human side. “Each camp could hold between 150 and 600 people. We loaded every activity with manpower in Tilos. It told us when to tip the ‘see-saw’, that’s what we called it, moving crews from one camp to the next so no one was left waiting without a bed / cabin, hot meal.”

Veteran planning manager Lorne Duncan spent years working with Enbridge, TransCanada, and others. He now leads Petroglyph Projects and says he’s wrestled with similar challenges. “Being out in the field is tough on the family,” Duncan says. “Crews move down the line to camps closer to work, and you have to minimize travel time. Tilos helps visualize people, equipment, resources, distances, and materials. It’s been invaluable over the decades.”

Winning Over the Old Guard

When Pucci first introduced Tilos to long-time superintendents, many were skeptical. “They called it spaghetti,” he says with a grin. “They just wanted a bar chart... where do I start, where do I finish?”

That attitude didn’t last. “Once you educate them, they love it,” he says. “Now every senior manager wants a Tilos chart. Even guys in their seventies and eighties who used to jot notes on Gantt charts... they are now converts. When they see it live on a Teams meeting, updated in real time, they’re hooked.”

Pucci routinely integrates Tilos with Primavera P6 for reporting consistency. “On the Coastal GasLink project for TC Energy, we ran everything in Tilos. All weekly client meetings were visual. P6 was the contractual schedule, but Tilos was how we actually managed and communicated.”

Precision Under Pressure

Linear infrastructure is a constant dance with geography - mountains, rivers, marshes, and seismic zones. “We’re forever navigating obstacles,” Pucci says. “Tilos lets us simulate those scenarios before we get there.”

That foresight translates into measurable savings. On TANAP alone, optimizing camp moves, sequencing, and material flow prevented months of downtime and preserved billions in throughput value. “Over 16 billion cubic metres of gas can flow through that line every year,” Pucci notes. “That’s what’s at stake when you get the planning wrong.”

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A New Language of Planning

For Pucci and Duncan alike, Tilos represents more than a piece of software, it’s a new way of thinking about projects.

“Tilos has got it nailed,” Pucci says simply. “It’s visual, it’s precise, and it’s built for how we actually work.”

Duncan adds: “Tilos provides insights into logistics that keep people productive, and reduces overall cost by minimizing time in the field. That matters.”

Across continents, from Turkey’s fault lines to Canada’s rugged forests, Tilos has become the quiet engine behind the world’s most complex linear projects.

Pucci, now mentoring younger engineers, sees it as a generational bridge. “People who see Tilos for the first time, they embrace it,” he says. “Because it tells the story of a project, the geography, the people, the movement. It turns complexity into clarity.”

And in the high-stakes world of pipelines and mega-projects, clarity is everything.