Let's get moving!

Everett team's changes make it safer, more efficient to get into, around facility

By Patrick Summers

It's rush hour on Main Street—aisle 11 inside the Everett, Wash., factory—and traffic is humming. At its busiest, more than 500 pedestrians, 150 bicycles and 50 vehicles an hour pass through a single intersection on aisle 11, the main transportation hub for all Everett production programs.

Outside the factory, the picture is the same: Material-handling and general traffic lanes encircle the building and fan out across the site. A network of pedestrian walkways guides thousands of employees, suppliers and visitors each day to and from the factory, parking lots and other buildings around the Everett site.

This complex movement of people, material, parts and vehicles in, out and around the factory and site must be choreographed carefully. That's the job of the Everett Site Logistics & Material Handling team, which since 2006 has implemented dozens of safety and efficiency improvements that have changed the way people walk, drive, park and travel around the site and inside the factory.

PREPARING FOR THE FUTURE

In 2006, Everett site and program leaders began to prepare for the growth they knew was coming. Although the factory was designed for a single program, the 747, "over the years we expanded and grew," said John Larson, Site Services project manager for the Logistics & Material Handling project. By 2006, the site had four airplane programs and increasing production rates but "we couldn't physically expand our facilities. That required a new mindset about how we could make everything work together, inside and outside the factory."

New programs also required new thinking. "With the 787 Dreamliner program coming online, we expected more people but also different manufacturing processes," said John Akiyama, Logistics & Material Handling program manager and a senior manager in Commercial Airplanes. "We knew this would require different ways of moving parts and material into and around the factory. We needed to accommodate new ways of building airplanes and a growing site population to ensure the Boeing Production System operated at peak efficiency."

To help plan and design a safer and more efficient site operation, Boeing hired the Transpo Group, a transportation planning and engineering firm that completed a similar safety improvement initiative at the Renton, Wash., factory. The first step was to hear the priorities and concerns of key stakeholders during a three-day workshop in December 2006 that included Manufacturing, Materials Management, Site Services and Field Operations and Delivery.

"A key feature of this project is that it's enabling closer collaboration among different groups on key logistics issues," noted team member Ron McEnulty, Manufacturing Operations focal. "This is helping all of us fulfill the mission of the Boeing Production System."

The next step was to get a clear picture of the site's transportation situation by collecting data on how, where and why people and vehicles move around the site the way they do. A

PHOTOS: Left: Wider walkways, channeling fencing and reconfigured traffic lanes are among the improvements that are helping create a safer environment on the Everett factory's busy south apron. Center: An orange stripe along the length of the Everett factory's south apron marks the airplane tow line, the boundary of the section of pavement that must be kept clear from 7 p.m. to 5 a.m. for the overnight movement of airplanes. Right: Site and program representatives conduct regular "aisle walks" inside the Everett factory to identify potential safety improvements. GAIL HANUSA/BOEING

three-month assessment during the first quarter of 2007 involved measuring sight distance—the distance required between a person, either pedestrian or driver, and an object or situation for safe operations—and light levels at different times of day; physically counting the number of people and vehicles and observing their maneuvers and direction of travel; and reviewing reports of accidents and near misses.

It wasn't always easy, given the activity and complexity at the Everett site. "One day you may have a sight problem because material may be staged in a certain place, but the next day it's not there. Assessing and adapting to a continuously changing environment can be challenging," noted Kerensa Swanson, Transpo Group project manager and associate principal.

The assessment found areas where improvements could be made to lane striping, signage, lighting and lines of sight that would help pedestrians safely spot oncoming traffic or other potential hazards. Larger outdoor areas, such as the factory's south apron, needed a clear separation of pedestrians, material handling and vehicle traffic.

The team began implementing major transportation improvements in mid-2007, which continued through 2008 (see sidebar at right). Additional changes are planned outside and inside the factory through mid-2009, with a focus on the east side of the Everett site and the flight line.

What do Everett employees think of the improvements? "I like how the parking lots have been redesigned and how the shuttle stops look like community transit. I feel much safer with the new look," said Tanya Parker, industrial engineer, 747 program. Added Joan Fridell, Material Management supply chain management analyst, "You know where you're supposed to be; things are clearly marked. I do feel safer." ■

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Paving the way

The Everett Site Logistics & Material Handling team made many improvements to enhance pedestrian and transportation safety around the facility. Here's a list of some of these changes.

South apron:

- New pedestrian walkways connect the factory with reconfigured parking stalls that run along the south edge of the apron. A new east-west walkway, which runs the length of the apron, is separated from traffic lanes by new channeling fencing.
- Parking stalls and local receiving areas were reconfigured to improve traffic flow in front of the factory. Parking stalls also were reconfigured south of the general traffic lane.
- To improve traffic flow on the apron, general-purpose and material-handling traffic lanes were reconfigured, and the three-way stop at the bridge over Highway 526 was converted to a four-way stop.

West side:

- Gate E-72 was closed to vehicle traffic to relieve congestion and eliminate potential conflicts between pedestrians and vehicles; a new bus plaza and new turnstiles help improve pedestrian flow.
- New fencing and walkways along the west side of the general traffic lanes help protect pedestrians, and additional turnstiles and a crosswalk improve pedestrian access.
- Access to parking lot W2 was improved.

North side:

- At Gate E-81, access was improved to accommodate increased traffic; lighting was improved; pedestrian walkways and crossings were defined and marked clearly; and other markings and signs were improved.
- Sidewalk access and parking were upgraded in accordance with the Americans with Disabilities Act.

Inside the factory:

- On Main Street (aisle 11), fire lanes were striped and walkways and traffic lanes reconfigured; similar improvements are under way on most north-south transportation aisles.
- Southbound vehicle traffic on aisle B was converted to one-way between columns 1–5.