

Photo visualizations courtesy of Tacoma Narrows Constructors.

## TOLLS OPERATIONS TIMELINE

### 2004

- June:** The Washington State Legislature passed legislation to allow for electronic toll collection and toll enforcement.
- Began design of electronic tolling preliminary hardware/software.
- Began coordination with other state agencies to provide toll support services such as security, incident response, and enforcement.

### 2005

- March:** Approve final electronic toll system design.
- June:** Update Traffic and Revenue Study.
- November:** Test electronic toll collection system.
- Winter:** Install toll system at Tacoma Narrows Bridge.

### 2006

- Spring:** Governor to appoint Citizen Advisory Committee.
- May:** Begin marketing program and open customer service centers.
- August:** Citizen Advisory Committee gives Transportation Commission recommendations on toll rates.
- October:** Transportation Commission sets toll rates.

### 2007

- Spring:** Latest time frame toll collection could begin, based on bridge completion.

# Tolling and the New Tacoma Narrows Bridge

NEW PARALLEL BRIDGE OPENS AND TOLLS COMMENCE: Spring 2007  
1950 BRIDGE RENOVATIONS COMPLETE: Spring 2008

In the three years since the Washington State Department of Transportation began constructing the new Tacoma Narrows Bridge, the overall project is nearly three-quarters complete. The \$849 million project consists of constructing a new suspension bridge, toll plaza and operations buildings, improving 2.4 miles of State Route 16 roadway, seismically reinforcing and resurfacing the parallel bridge built in 1950, and installing a toll collection system. Tolls will commence when the new bridge opens to traffic in spring 2007, and the entire project is scheduled to finish in spring 2008.

About \$800 million in tax-exempt bond financing supports the construction of the new bridge and improvements to the 1950 bridge, with the state contributing an additional \$49 million to help pay for project costs. Bonds will also finance long-term operations and maintenance. As a result of this bond financing, tolls will be reintroduced to western Washington motorists for the first time since 1985, when tolls were removed from the Hood Canal Bridge. Travelers will be charged an initial \$3 toll to be collected in the eastbound direction only. More than \$100,000 in toll fees will be collected daily, totaling more than \$45 million collected each year. Once the debt service to finance construction of the new bridge and renovate the existing bridge is paid, tolls will be removed.

## Bridge at a Glance

### Project Scope:

3.4 miles of roadway (includes 1-mile-long bridge)

### Boundaries:

Jackson Avenue NW (Tacoma) to just west of new 36th Street NW (Gig Harbor)

### Start Date:

Broke Ground October 2002

### New Bridge Opens/Tolls Collected:

Spring 2007

### 1950 Bridge Retrofit Completed:

Spring 2008

### Owner:

Washington State Department of Transportation

**Bridge Contractor:** Tacoma Narrows Constructors  
(Joint Venture: Bechtel and Kiewit)

**Tolls Operator:** TransCore

**Initial Toll:** \$3 round trip (per vehicle)  
collected eastbound direction only

## Answers to Questions

### When will drivers who use the Tacoma Narrows Bridge begin paying tolls?

Tolling begins when the new bridge opens to traffic in early 2007. The round trip toll will be collected only from vehicles traveling eastbound (towards Tacoma) on State Route 16.

### Exactly how will tolls be collected?

Tolls will be collected either electronically (electronic toll collection is known as ETC) or manually. Customers who opt for electronic tolling will use a "transponder" card (see right) and be able to access the "express toll lanes." Customers choosing to pay cash will pull off the highway and use one of six manual lanes at the plaza. During the second half of 2006, a customer service center will be established to open accounts and distribute transponders (pre-programmed cards associated with unique accounts). Staff at toll service centers will make it easy for individuals to set up and maintain accounts by telephone, Internet, or in person.

### How does electronic toll collection work, and what is a 'transponder'?

A transponder is an electronic device about the size of a credit card, placed inside a vehicle's front windshield. An antenna, located above the toll lanes, reads the transponder data, and the toll is debited from the customer account. Vehicles with transponders will be able to stay in the SR 16 express toll lanes, travel at highway speeds, and bypass the manual toll plaza. Transponder customers may use the manual toll lanes too.

### How do motorists benefit from electronic versus manual tolling?

Customers who pay the toll electronically will travel at highway speeds past the plaza and onto the bridge without stopping. In addition, customers may track their account information, and will also receive statements detailing each transaction. An electronic account also means that two- or more-car households may sign up under one account.

### If I have more than one vehicle, will I be able to obtain additional transponders?

Yes, customer service centers will provide as many transponders (electronic toll passes) as is requested by a customer. We plan to make transponders, credit card-sized stickers that will adhere to windshields, readily available. With a transponder in each of their vehicles, a customer would have access to the express lanes at all times. It's likely then that customers will install transponders in all their vehicles to ensure access to express lanes at all times.

## How Tolls Will Be Collected

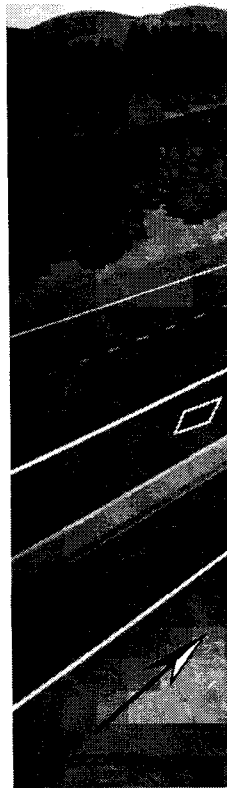
Once toll collection begins, all vehicles crossing the new Tacoma Narrows Bridge on eastbound SR 16 will pay a toll. The illustration to the right shows how the toll plaza area will be configured. Bridge customers will be able to choose whether to pay tolls electronically or manually, and this choice will determine which lanes they will use. The three eastbound State Route 16 lanes (called "express toll lanes" near the toll plaza) that run adjacent to the toll plaza will be limited to drivers paying tolls electronically.

### Electronic Toll Collection (ETC)

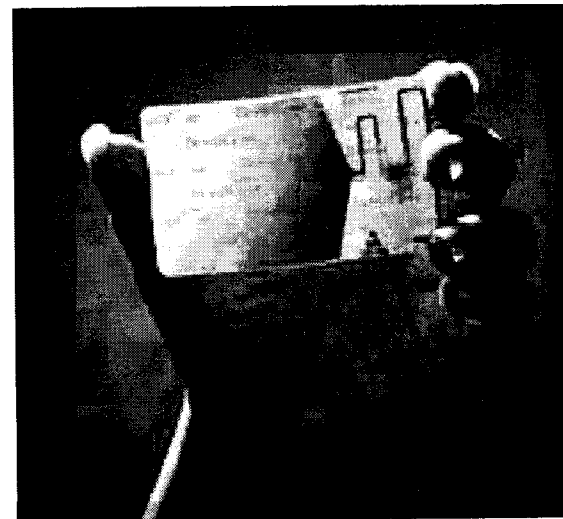
Bridge customers who pay tolls electronically will have the benefit of maintaining highway speeds on eastbound SR 16 by bypassing the toll booth area and staying on the highway lanes (called "express toll lanes" near the toll plaza). Their toll will be automatically deducted from a previously created account.

This is how it will work. Bridge customers opting to pay tolls electronically will get a "transponder," a device about the size of a credit card, to place in the windshield of their vehicle. At the same time, they will create an account. When their vehicle approaches the toll plaza area, electronic toll customers will stay in the eastbound SR 16 "express toll lanes" and antennas located

directly above the lanes will automatically read the account number assigned to the transponder. Computers will then automatically deduct the toll from the corresponding account. Drivers with transponders may also choose to drive through any of the toll plaza booths without stopping (of course at slower speeds!), and antennas at each booth will read the transponder account numbers the same way. Several months before tolling begins, service centers will be established to distribute transponders and create customer accounts.



*A sophisticated toll plaza*

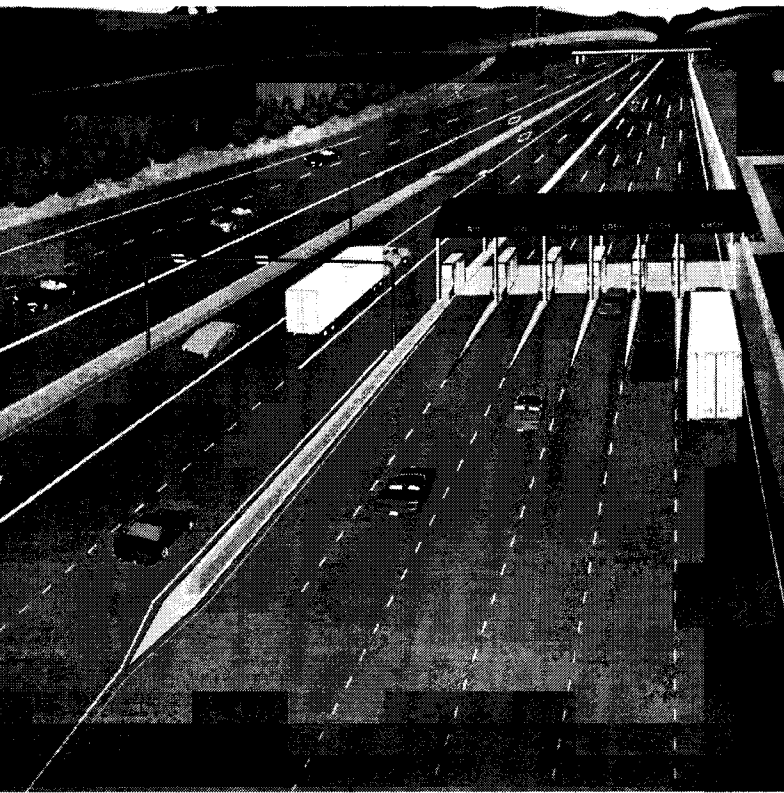


*A small transponder, placed in the windshield of your vehicle, will allow you to stay in the SR 16 "express toll lanes" and pay tolls electronically.*

## Washington's History With Toll Collections

Toll collection to financially support public transportation projects is not new to Washington, nor is it unique to the Tacoma Narrows bridges. In fact, 14 bridges in Washington State have been financed with bonds, with toll collections used to reimburse either part or all of the cost. Examples of previous toll bridges include the SR 104 Hood Canal bridges, the SR 520 Evergreen Point Floating Bridge, the I-90 Lacey V. Murrow (Lake Washington) Bridge, the SR 303 Fox Island Bridge, the I-5 Vancouver-Portland Bridge, and others.

Before 1933, Washington was one of only a few states that had never sold bonds to finance transportation projects. With no debt, Washington had financed transportation facilities strictly on a pay-as-you-go basis. However, the state found it increasingly



*tion system will allow drivers to pay electronically or manually.*

difficult to accumulate enough money through gas tax revenues to finance transportation projects needed to meet the demands of a rapidly growing population and economy.

In 1937, increasing public pressure compelled the Legislature to recognize the need for bridges spanning the Narrows and Lake Washington. Lawmakers passed a law creating the Washington Toll Bridge Authority, and gave it full powers to finance, construct, and operate toll bridges. This promise of a steady and reliable revenue stream, backed by the bonding authority of the State, resulted in financing two very necessary bridges: the Tacoma Narrows Bridge in Tacoma and the Lacey V. Murrow Memorial Bridge in Seattle, both of which opened to traffic in July 1940.

When the 1940 Tacoma Narrows Bridge opened, the traveling public paid a 55-cent toll for a car and driver (and another 15 cents per passenger), averaging \$0.83 per vehicle per direction. The bridge proved to be a quicker and more convenient way to cross the Narrows than the existing ferry. It also proved to be less expensive per trip. At the time, the average ferry fare was \$0.89 per direction.

Galloping Gertie piqued the curiosity of thousands: revenue collected on the first day of operations totaled an astounding \$11,541. Newspaper accounts tell of people making two, three, four, or more trips that opening day just because they could!

In 1950, the replacement Tacoma Narrows Bridge ("Sturdy Gertie") opened with a \$1.10 round trip toll, which today would equate to \$8.64.



*Opening day, July 1, 1940. At the opening ceremonies, several bands played a march composed by the Gig Harbor postmaster. The bridge cost \$6.4 million; tolls started at 55 cents and were cut to 50 cents two months later when the bonds were refinanced.*

## Answers to Questions (continued)

### **Does electronic tolling impinge upon the privacy of motorists?**

Each transponder will be assigned a unique number. The transponder is linked to a customer account. Any and all personal data will be kept as confidential information in compliance with current laws.

### **What is the expected toll rate and how will that change over time? Can regular commuters expect to receive a discount? Will rates vary depending on size and type of vehicle?**

The current plan is to charge all vehicles a \$3 roundtrip toll in the first year. In subsequent years, the Washington State Transportation Commission will determine how, and when to make fee adjustments to ensure timely repayment of bonds. In setting fees and other toll policies, the Commission could consider the idea of discounts for, say, frequent users of State Route 16. As for toll increases, it is anticipated that the Commission will adjust the \$3 toll after the first year, and base fees on vehicles' axles. Vehicles with more than two axles (i.e., trucks and trailers) will pay a higher toll.

### **Will the public have an opportunity to comment on toll policies that, ultimately, will be set by Transportation Commission?**

Yes, a nine-member citizen advisory committee will be appointed by the Governor to make recommendations on toll rates and other policies. Guidance offered by the citizens committee will be taken into consideration.

### **How long will the toll be in effect?**

The toll will be effective until approximately 2030. Once the debt has been repaid, the toll will be lifted.

### **If for some reason, a driver in either the express or manual toll lanes fails to pay the toll what will be the outcome?**

It is possible to pass the toll plaza without paying the toll, but a new law makes doing so a violation. The state departments of Transportation and Licensing and the Washington State Patrol plan to work cooperatively to enforce the toll, and assess fines as necessary. Driving through the plaza without paying will trigger a camera to photograph the violator's license plate (front and rear). Violators will be identified by license plate number and sent a request for payment.

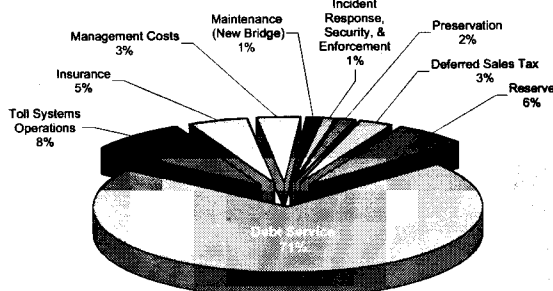
## Preliminary Toll Revenues Schedule

In 2002, the State Legislature passed legislation that allowed WSDOT the flexibility to fund public-private-initiative projects with state financed bonds. Building the new Tacoma Narrows Bridge and renovating the existing bridge was one of those projects. The legislation also gave the Transportation Commission toll setting authority, and required that the Governor appoint a nine-member Citizen Advisory Committee to recommend toll practices and fares to the Commission.

The Legislature appropriated \$849 million for the Tacoma Narrows Bridge Project, which included \$800 million in proceeds from the sale of bonds. This legislation stipulated that tolls go toward the payment of project development, financing, right-of-way acquisition, design and construction, maintenance and administration, and toll operations and collection. Current legislation also requires that once the bonds are repaid, the tolls be removed.

The toll revenue projections shown to the right are current estimates, and may change as new information becomes available. Estimated gross toll revenue is based on studies completed in 2000 and updated in 2002.

Tacoma Narrows Bridge Project  
Forecasted Toll Operations & Maintenance Budget  
30 Year Distribution



## Preliminary Toll Revenue Projections Fiscal Year (July–June) Estimated in Millions of Dollars

### Estimated Transactions, Revenue, and Expenditures

Year	Transactions	Toll <sup>2</sup>	Revenue <sup>3,4</sup>	Bond Repayment <sup>5</sup>	Expenses <sup>6</sup>
2007 <sup>1</sup>	3,700,333	\$3.00	\$11.10	\$1.55	\$7.30
2008	14,905,667	\$3.00	\$45.55	\$29.75	\$12.88
2009	15,175,500	\$3.00	\$47.21	\$31.01	\$13.26
2010	15,368,905	\$4.00	\$55.80	\$38.77	\$13.52
2011	15,595,405	\$4.00	\$64.69	\$46.64	\$13.98
2012	15,998,000	\$4.00	\$66.36	\$44.96	\$17.41
2013	16,167,000	\$5.00	\$75.42	\$50.30	\$20.73
2014	16,344,000	\$5.00	\$84.74	\$58.50	\$21.22
2015	16,772,775	\$5.00	\$86.96	\$58.28	\$23.66
2016	16,956,775	\$6.00	\$96.70	\$65.36	\$25.77
2017	17,097,500	\$6.00	\$106.39	\$74.68	\$25.57
2018	17,448,000	\$6.00	\$108.57	\$77.31	\$24.76
2019	17,806,000	\$6.00	\$110.80	\$79.65	\$24.46
2020	18,172,030	\$6.00	\$113.07	\$81.51	\$24.71
2021	18,528,466	\$6.00	\$115.29	\$82.63	\$25.69
2022	18,845,605	\$6.00	\$117.26	\$86.00	\$24.02
2023	19,138,573	\$6.00	\$119.09	\$88.22	\$23.52
2024	19,435,046	\$6.00	\$120.93	\$88.84	\$23.84
2025	19,736,027	\$6.00	\$122.80	\$91.46	\$23.58
2026	20,047,024	\$6.00	\$124.74	\$90.46	\$26.61
2027	20,317,456	\$6.00	\$126.42	\$89.83	\$28.74
2028	20,540,813	\$6.00	\$127.81	\$91.43	\$28.29
2029	20,766,173	\$6.00	\$129.21	\$93.22	\$27.86
2030	20,994,037	\$6.00	\$130.62	\$92.20	\$30.33

<sup>1</sup>Assumes toll collection April 2007 through June 2008. Fiscal year 2008 begins July 2007.

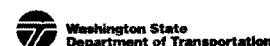
<sup>2</sup>Passenger car toll rates are shown. Higher rates may be charged to trucks after 2007.

<sup>3</sup>Revenue estimates for 2007 assume all vehicles pay a round trip toll of \$3.00 collected eastbound only; subsequent to 2007, higher tolls may be charged to larger vehicles.

<sup>4</sup>Any toll revenue collected in excess of expenses and bond repayment requirements will be held and applied toward future repayments.

<sup>5</sup>Bond Repayment is based on total bond sales of \$723.6 million and repayment of \$1.6 billion (with interest).

<sup>6</sup>Expenses include toll systems operations and management, facilities security, toll payment enforcement, insurance, maintenance and preservation of the new span, as well as payment of deferred sales taxes on the total construction value of the new span.



### WSDOT Tacoma Narrows Bridge Office

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For more information about the bridge project, visit the TNB web site: [www.tacomannarrowsbridge.com](http://www.tacomannarrowsbridge.com)

# THE NEW NARROWS BRIDGE

**Tacoma Narrows Bridge Project, 2002-2008**

## AT A GLANCE

**Project Scope:** 3.4 miles of roadway (*including bridge*)

**Boundaries:** Jackson Avenue NW (*Tacoma*) to just west of new 36th Street NW (*Gig Harbor*)

**Start Date:** Broke ground October 2002

**Completion Date:** Spring 2007

**1950 Bridge**

**Retrofit Completed:** Early 2008

**Owner:** Washington State Dept. of Transportation

**Contractor:** Tacoma Narrows Constructors  
(Joint venture: Bechtel and Kiewit)

**Cost of Project:** \$849 million

**Part Paid By Tolls:** \$800 million

**Initial Toll:** \$3 roundtrip (*per vehicle*)  
collected Eastbound direction only

## NEW BRIDGE VITAL STATISTICS

**Bridge Length:** 5,400 ft. (*overall*)

**Main Span:** 2,800 ft. (*tower to tower*)

**Deck Panels:** 46 sections, 120 ft. by 78 ft. (*each*)

**Tower Height:** 510 ft. tall; 8,500 cubic yds. concrete (*per tower*)

**Tower Foundations:** • 1.7 million lbs. steel (*total*)  
(each caisson) • 850,000 lbs. steel (*base or cutting edge*)  
• 6 million lbs. rebar  
• 30,000 cubic yards concrete

**Anchorage (each):** • 20,600 cubic yards concrete  
• 900,000 lbs. rebar  
• 90 million lbs. (*total weight*)

**Cable Diameter:** 20.5 inches

### Steel Bundles

(per cable): 19

**Wires (per bundle):** 464

**Structural Steel:** 35.5 million lbs. (*excludes weight of cables*)  
49.7 mil. lbs. (*all steel excluding towers*)

## BRIDGE TIMELINE

<b>2002</b>	
September	WSDOT and Tacoma Narrows Constructors officially started design work of Narrows Bridge
October	Groundbreaking ceremony held Oct. 5
<b>2003</b>	
January	Roadway construction begins
March	First cutting edge launched from Seattle for delivery to Port of Tacoma
April	Second cutting edge launched from Seattle for delivery to Port of Tacoma
July/August	Caissons (bridge foundations) towed into Narrows
September	New 24th St NW underpass opens
October	Westbound SR 16 ramps at 24th St NW open to traffic; East anchorage fully excavated and related concrete pours begin
December	Gig Harbor caisson reaches seabed: 1st Touch Down
<b>2004</b>	
January	Tacoma caisson reaches seabed: 2nd Touch Down; West anchorage fully excavated
February	Deck and suspension cable fabrication begin in Korea; West anchorage concrete pours begin
March	Air domes cut out of both caissons, and dredging begins
May/June	Caissons reach full height and are sealed
August	Tower construction begins
<b>2005</b>	
April	Tower construction and anchorages to be completed
August	Suspension system underway with cable spinning
<b>2006</b>	
February	Deck construction begins
<b>2007</b>	
	New bridge complete in spring; opens to traffic in temporary lane configuration
<b>2008</b>	
	Existing bridge retrofit complete; eastbound traffic on new bridge and westbound traffic on old bridge