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TRANSPORTATION AUTHORITY

EXEMPT FROM FILING FEES
[GOVERNMENT CODE § 6103]

SUPERIOR COURT OF THE STATE OF CALIFORNIA

COUNTY OF LOS ANGELES

LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY, a public entity, Petitioner and Plaintiff, v. CITY OF BURBANK, a municipal corporation; and DOES 1-10, inclusive, Respondents and Defendants.	Case No. 26STCP01904 **DECLARATION OF JAMES SHAHAMIRI IN SUPPORT OF PETITIONER AND PLAINTIFF'S MOTION FOR RECONSIDERATION OF ORDER DENYING PRELIMINARY INJUNCTION** ASSIGNED FOR ALL PURPOSES: Hon. Stephen Morgan Hearing Date: August 24, 2026 Time: 10:00 a.m. Dept.: 416 Action filed: May 19, 2026 (CEQA)

I, James Shahamiri, P.E., declare:

1. I am employed by the Los Angeles County Metropolitan Transportation Authority (Metro) as Senior Director, Project Engineering. I have held that position since January 2025. I have worked for Metro for approximately six years.

2. I am a Licensed Civil Engineer in the State of California, License No. 79119. I received a Bachelor of Science degree in Civil Engineering from San Francisco State University in 2008 and have been licensed as a Civil Engineer in California since 2011.

3. I have approximately 18 years of professional experience in transportation engineering, traffic engineering, transit engineering, traffic operations, and transportation project management. My experience includes traffic signal design and timing, roadway and intersection capacity analysis, traffic modeling, transit operations, bus rapid transit, dedicated bus lanes, transit signal priority, major-event transportation operations, and the design and implementation of transportation improvements in complex urban environments.

4. I have personal knowledge of the matters stated in this declaration, except where I state that a matter is based on information provided to me in the ordinary course of my work. If called as a witness, I could and would testify competently to these matters.

5. I currently lead Metro's Speed & Reliability program, where I oversee the planning, design, implementation, and evaluation of projects intended to improve the speed, reliability, and operational performance of Metro bus and rail service.

6. Since joining Metro, I have led or managed the delivery of approximately 60 lane-miles of dedicated bus lanes throughout Los Angeles County. These projects have included full-time and part-time bus lanes, red bus-only lanes, queue jumps, transit signal priority, bus stop and boarding improvements, and related changes to roadway and traffic signal operations. I have been responsible for the technical analysis, design, interagency coordination, permitting, community engagement, construction oversight, and operational evaluation associated with these projects.

7. My work requires an extensive understanding of how roadway design and traffic operations affect bus travel time and service reliability. I routinely evaluate how roadway capacity, traffic volumes, intersection control, signal timing, lane configuration, turning movements, traffic

incidents, construction, street closures, stop spacing, and other operational conditions affect transit vehicles operating in both mixed traffic and exclusive or preferential rights-of-way.

8. I have specialized expertise in traffic signal design, timing, operations, and capacity analysis. Throughout my career, I have prepared and reviewed intersection and corridor operational analyses, including analyses of traffic volumes, roadway capacity, level of service, queues, delay, signal phasing, signal coordination, and multimodal operations. I have developed and evaluated traffic models using Synchro and SimTraffic and have also performed manual traffic engineering and capacity calculations.

9. I have extensive experience developing, reviewing, and modifying traffic signal timing plans to reduce congestion and improve transit performance. At Metro, I diagnose and evaluate traffic signal delay affecting bus and rail service and work with local jurisdictions to identify and implement operational improvements. These improvements include changes to signal cycle lengths, phase timing, coordination, offsets, transit signal priority parameters, and other traffic signal strategies intended to reduce delays while maintaining safe roadway operations.

10. I also have specialized expertise in transit signal priority and transit preemption. At Metro, I have led efforts to evaluate and modernize transit signal priority systems, including systems involving transit-vehicle detection, communications, central traffic management systems, traffic signal controllers, and cloud-based priority platforms. I regularly evaluate the relationship between traffic signal operations, intersection capacity, bus travel time, and transit reliability.

I. <u>Metro's Games Enhanced Transit System (GETS) and World Cup Operations</u>

11. In addition to my general responsibilities at Metro, I was integrally involved in Metro's transportation planning and real-time operations for the 2026 World Cup events in Los Angeles. I staffed Metro's Emergency Operations Center for six of the eight World Cup games held in Los Angeles. During those events, I conducted extensive real-time monitoring and analysis of traffic conditions and the performance of Metro's World Cup Games Enhanced Transit Service, referred to as "WC GETS."

12. WC GETS was a standalone fleet of more than 300 buses assembled specifically to serve the World Cup events in Los Angeles. The fleet included Metro buses, buses provided by other

municipal transit agencies, and buses operated by a charter bus provider. My responsibilities included monitoring the performance of this service, identifying traffic and operational conditions affecting bus travel, and recommending corrective actions to improve bus speeds, travel times, and service reliability.

13. As part of this work, I monitored 16 roadway and transit routes used by WC GETS. I used multiple independent traffic and transit information systems to evaluate conditions in real time and to corroborate information from different sources.

14. One of the principal systems I used was Iteris ClearGuide, a traffic analytics platform that uses vehicle-probe data to report roadway speeds, travel times, traffic volumes, congestion, and related performance measures. I used ClearGuide to identify the location, duration, and severity of congestion affecting WC GETS service and surrounding roadway operations.

15. I also used Metro's Regional Decision Support System, an internally developed operational dashboard that consolidates information from multiple transportation and public-safety sources. The system provided real-time information concerning the speeds and delays experienced by regular Metro bus routes, roadway speeds and congestion based on vehicle-probe data, reported roadway hazards and incidents, weather conditions, City of Inglewood traffic signal timing information, and traffic anomalies identified through comparisons with historical speed, volume, and delay information.

16. I used One Network Causeway to monitor the street and lane closures established through the City of Inglewood's World Cup Traffic Management and Operations Plan. That system provided real-time information regarding closures and restrictions and distributed relevant information to navigation and mapping providers to assist with the rerouting of general traffic around event-related closures.

17. I also monitored live closed-circuit television feeds from City of Inglewood traffic cameras. These camera feeds allowed me to visually observe traffic queues, intersection operations, bus movements, roadway blockages, and traffic-control conditions and to validate the information reported by the other traffic and transit monitoring systems.

18. In addition, I had access to the Spare fixed-route operations platform used to track the WC GETS bus fleet. The platform displayed the real-time locations and operating conditions of more

than 300 WC GETS buses and allowed me to identify delayed buses, bus bunching, reduced operating speeds, increased travel times, and other service irregularities.

19. By reviewing these systems together, I could compare roadway congestion, reported incidents, traffic-control conditions, signal operations, camera observations, and the actual movement of WC GETS buses. The availability of multiple independent sources allowed me to determine whether observed transit delays were associated with roadway congestion, signal operations, street closures, traffic-control measures, incidents, or other operational conditions.

20. My World Cup responsibilities were not limited to reviewing historical reports after the events. I personally monitored traffic and bus operations as the events occurred, evaluated changing conditions using real-time data and video, communicated with the responsible operating agencies, and made recommendations intended to address active transportation problems.

21. Based on my education, professional licensure, approximately 18 years of transportation engineering experience, leadership of Metro's Speed & Reliability program, delivery of approximately 60 lane-miles of bus lanes, expertise in traffic signal timing and capacity analysis, and direct involvement in the planning and operation of transportation service for the 2026 World Cup, I am qualified to evaluate and provide professional opinions regarding traffic congestion, transit travel time, bus service reliability, dedicated transit facilities, major-event transportation operations, and the likely operational consequences of providing or failing to provide reliable transit infrastructure during periods of unusually high transportation demand.

II. <u>Metro's Regional Transit Network and the NoHo to Pasadena BRT Project's Function</u>

22. During the course of my duties, I have also become familiar with Metro's North Hollywood to Pasadena Bus Rapid Transit (BRT) Corridor Project (Project), including its planning history, route, planned dedicated bus lanes, connections to other Metro services, anticipated operation, role within Metro's regional transportation network, and the role Metro anticipates the Project will serve during the 2028 Olympic and Paralympic Games.

23. Metro's rail and bus rapid transit system operates as an interconnected regional network. Major rail and BRT lines function as corridors or "spokes" that carry passengers toward and between different parts of Los Angeles County.

24. The Metro B Line currently terminates in North Hollywood. The Metro A Line serves Pasadena and continues through the San Gabriel Valley. At present, there is no direct high-capacity transit connection between those two portions of Metro's system.

25. The Project would close that gap by connecting the B and G Lines in North Hollywood with the A Line in Pasadena. The Project would allow passengers to travel between the San Fernando Valley, the communities along the Project corridor, and Pasadena without first traveling south through Downtown Los Angeles and then back north or east.

26. The Project would also serve intermediate communities and destinations in North Hollywood, Burbank, Glendale, Eagle Rock, and Pasadena. It would therefore function both as a connection between major transit lines and a local transit service for passengers traveling within the corridor.

27. From a transportation-planning perspective, network connections of this kind are important because they provide additional travel paths, distribute passenger demand from across the system, reduce dependence on a single transfer point or central corridor and make transit useful for a broader range of trips.

III. Timing and Availability of World Cup Data

28. The complete traffic and transit-operating information generated during the World Cup events was not available for Metro to present prior to the July 16, 2026, hearing on Metro's motion for a preliminary injunction. The last World Cup match at SoFi Stadium was held on July 10, 2026, and World Cup events at FIFA Fan Zones continued through the Final match on July 19, 2026. (See list of FIFA Fan Zones and events from https://losangelesfwc26.com [last accessed July 23, 2026], attached hereto as **Exhibit A**.) Since those events, I have reviewed newly available information concerning roadway congestion, travel-time reliability, and the performance of regular Metro bus service during World Cup event periods.

29. I completed the analysis described in this declaration on July 22, 2026.

IV. Observed World Cup Transportation Conditions and Effects

30. The 2026 World Cup provided Metro and its regional partners with a real-world opportunity to plan, implement, operate, and evaluate transportation service for a major international

sporting event over an extended period. Los Angeles hosted eight World Cup matches at the stadium in Inglewood over several weeks. In my experience, the World Cup transportation program was unprecedented for Metro in the scale and duration of the special bus operation required to support a single sporting event and its associated activities.

31. To serve World Cup spectators and workers, Metro established a separate bus service known as the World Cup Games Enhanced Transit Service, or "WC GETS." WC GETS consisted of more than 300 buses from Metro, participating municipal transit agencies, and a charter bus operator. Establishing the service required Metro and its partners to assemble an entirely new operating fleet, develop routes and schedules, coordinate operators and maintenance resources, establish temporary operating facilities, and create systems for real-time supervision and incident response.

32. The transportation operation extended beyond the stadium itself. In addition to the eight matches in Inglewood, the Los Angeles World Cup program included a FIFA Fan Festival and ten official Fan Zones located around the region. (See Exhibit A [FIFA Fan Zones].) Those activities demonstrated that the transportation effects of a major event are not confined to the immediate venue perimeter. People also travel to public viewing areas, celebrations, hotels, restaurants, entertainment districts, and other gathering places before, during, and after the scheduled competition.

33. I personally staffed Metro's Emergency Operations Center for six of the eight Los Angeles World Cup matches. During those events, I monitored traffic conditions and the operation of WC GETS in real time. I used Iteris ClearGuide, Metro's Regional Decision Support System, One Network Causeway, the Spare fixed-route fleet-management platform, City of Inglewood closed-circuit television cameras, traffic signal information, and direct communications with the City of Inglewood and WC GETS operations personnel.

34. Through these systems, I observed the interaction between event traffic, roadway closures, traffic-control measures, signal operations, general traffic, WC GETS buses, and regular Metro bus service. I used those observations and data to identify congestion and delay affecting transit service and to recommend signal timing changes and modifications to traffic-control measures. The City of Inglewood implemented the resulting signal and traffic-control changes where appropriate.

35. The World Cup experience demonstrated that a major international event can produce concentrated transportation demand and significant traffic impacts even when events are limited to a single principal venue and occurred on only eight days.

36. One of the tools I used to evaluate World Cup traffic conditions was Iteris ClearGuide. ClearGuide uses vehicle-probe and other traffic data to report roadway speeds, travel times, traffic volumes, congestion, and measures of travel-time reliability.

37. As recommended in guidance published by the Federal Highway Administration, a measure used in this analysis was the Planning Time Index. Planning Time Index is the ratio of the 95th-percentile travel time to the free-flow travel time. It represents the amount of time a traveler should allow to arrive on time for approximately 95 percent of trips. For example, a Planning Time Index of 1.60 indicates that a trip taking 20 minutes under free-flow conditions may require a traveler to allow 32 minutes to arrive on time reliably. (See FHWA Guidance on Travel Time Reliability, https://ops.fhwa.dot.gov/publications/tt_reliability/index.htm [last accessed on July 23, 2026], attached hereto as **Exhibit B**.)

38. I compared roadway conditions during World Cup events with conditions on comparable non-event days and time periods. My review showed that travel times on certain monitored roadway segments near the stadium were over 60 percent longer during World Cup event conditions than during the comparison conditions. (See ClearGuide Planning Time Index, attached hereto as **Exhibit C**.)

39. This increase was not merely an inconvenience to people traveling to the stadium. The same streets and intersections used by spectators were also used by local residents, employees, commercial traffic, emergency services, regular Metro buses, and other travelers who had no connection to the event. Those travelers experienced the consequences of increased traffic demand even though their destinations and purposes of travel were unrelated to the World Cup.

40. Travel-time variability is particularly harmful because travelers cannot reliably determine when they will arrive. An increase in average travel time is burdensome, but a large increase in the range of possible travel times is even more disruptive. It requires people to leave substantially

earlier to ensure that they arrive at work, school, medical appointments, childcare, and other time-sensitive destinations on time.

41. The World Cup results provided a recent and directly observed demonstration of how concentrated event demand can substantially worsen travel times and make roadway operations less predictable. These observations were not hypothetical forecasts. They were based on actual event-day conditions that I monitored and analyzed while the transportation operation was occurring.

42. I also reviewed the performance of regular fixed-route Metro bus service through Swiftly, a transit service-monitoring platform used by Metro to evaluate bus locations, travel times, and schedule adherence.

43. During World Cup event periods, I observed regular Metro buses operating more than 25 minutes behind schedule as a result of congestion associated with the games. [See Swiftly Line 212 Delay Comparison, attached hereto as **Exhibit D**.] These were regular Metro routes serving ordinary riders, not only the special WC GETS buses carrying spectators.

44. A bus operating in mixed traffic is generally subject to the same queues, blocked intersections, reduced speeds, and traffic incidents as other vehicles. When congestion increases, the bus takes longer to complete its route. A delayed bus may also become crowded, miss scheduled connections, arrive closely behind another bus, or require additional recovery time before beginning its next trip.

45. These effects can continue after the original traffic congestion has dissipated. Once a bus is substantially delayed, the delay can carry forward into later trips and affect passengers outside the immediate event area. Because buses and operators are finite resources, slower travel times also reduce the amount of service that Metro can provide with the same fleet and workforce.

46. Metro and the City of Inglewood were able to respond to some World Cup problems through active monitoring, traffic signal timing changes, adjustments to traffic control, field supervision, and operational changes. Those measures helped reduce particular delays, but they could not eliminate the fundamental effect of operating buses in streets carrying unusually high traffic demand.

47. The World Cup therefore provided two related lessons. First, a major international event can substantially increase roadway travel time and reduce travel-time reliability. Second, those conditions can create significant delays for ordinary fixed-route bus service and the riders who depend on it.

V. <u>Lessons from the World Cup Operation for the 2028 Games</u>

48. In the course of my duties, I have become familiar with Metro's planning for the 2028 Games, including Metro's Twenty-Eight by '28 Initiative and Metro's Mobility Concept Plan for the 2028 Games. Metro's Mobility Concept Plan identifies the 2026 FIFA World Cup as one of the events Metro would use to test its Games mobility strategies before 2028. Metro's World Cup operation served that purpose. The monitoring and analysis described in this declaration were part of how Metro evaluated the results.

49. Although the World Cup provided a valuable real-world example, the 2028 Olympic and Paralympic Games (Games) are operationally different and substantially more complex. The Los Angeles World Cup operation involved eight matches at one primary competition venue in the region. By comparison, the official LA28 plan presently includes more than 840 Olympic and Paralympic competition events, more than 3,000 hours of live sport, and more than 40 competition venues. (See LA28.org, https://la28.org/en/newsroom/LA28_Announces_Games_Dates.html [last visited July 24, 2026], attached hereto as **Exhibit E**.) Additionally, LA28 expects 12-15 million spectators. (See Spectrum News, https://spectrumlocalnews.com/us/snplus/sports/2026/01/14/la28-2028-olympics-what-we-know-so-far [last visited July 23, 2026], attached hereto as **Exhibit F**.)

50. Measured by the number of competition events and the number of venues requiring transportation support, the Games are larger than the Los Angeles World Cup operation by several orders of magnitude. The World Cup required Metro to manage major ingress before a match and major egress after a match at one primary venue. The Games will require Metro and its partners to support numerous venues distributed throughout the region at the same time.

51. The Games competition schedule includes events and sessions occurring throughout the day over multiple weeks. Olympic competition will occur from July 14 through July 30, 2028, and Paralympic competition will occur from August 15 through August 27, 2028. (See Olympic Games

Competition Schedule, attached hereto as **Exhibit G**.) Based on my review of the schedule, multiple venues will have sessions beginning and ending at or near the same time, while other venues are already operating.

52. At the transportation-network level, the Games will therefore involve simultaneous ingress and egress. Spectators and workers will be arriving for one session while other spectators and workers are departing another session. At the same time, additional people will be traveling between venues, hotels, workforce reporting locations, fan activities, transportation hubs, and other destinations.

53. This pattern will repeat throughout each day. Unlike a single stadium event, the transportation system may have little opportunity to recover between travel surges. A congestion problem near one venue may occur at the same time as congestion near several other venues, limiting the ability to reroute buses or redirect traffic onto alternate corridors.

54. The regional distribution of the venues further increases this complexity. The current LA28 venue plan includes competition zones in Downtown Los Angeles, Exposition Park, Inglewood, Long Beach, Carson, Pasadena, the San Fernando Valley, Universal City, Griffith Park, Venice, and other locations. (See map of Los Angeles region venues and schedule of events, attached hereto as **Exhibit H**.) This will generate trips traveling in many directions across the freeway, arterial street, and transit networks rather than toward and away from only one location.

55. Spectator and workforce travel will also occur at the same time as the region's ordinary daily travel. Residents will still need to travel to work, school, healthcare, shopping, childcare, and other appointments. Businesses will still require employees, customers, and deliveries. Metro must continue carrying its regular riders while also providing the additional transportation required for the Games.

56. Based on the World Cup results, the size of the Games program, the distribution of venues, and the overlapping competition schedule, I expect traffic conditions during the highest-demand Games periods to be substantially worse and more widespread than the conditions experienced during the World Cup. Substantial portions of the roadway network may reach or approach saturation during overlapping event periods.

57. Stated plainly, I expect traffic during the Games will be very bad in many parts of the region. It will also be less predictable because congestion, closures, security incidents, special-event operations, and unexpected disruptions may occur simultaneously in multiple areas. Operational measures such as signal timing changes, temporary traffic control, and bus rerouting will remain important and potentially reduce negative impacts, but they cannot substitute for a network of permanent, dedicated transit facilities.

58. The Games will also attract crowds to locations other than competition venues. Based on the World Cup experience, I expect people to gather at official fan locations, unofficial viewing areas, hospitality events, entertainment districts, restaurants, and public celebrations throughout the region. These additional gatherings will generate travel demand and affect streets and transit routes that may not be immediately adjacent to a competition venue.

VI. <u>Role of the North Hollywood to Pasadena BRT Project</u>

59. The North Hollywood to Pasadena Bus Rapid Transit Project is a critical part of the transit network Metro is developing for both the Games and the long-term mobility needs of Los Angeles County. The project will connect North Hollywood, Burbank, Glendale, Eagle Rock, and Pasadena and will provide an east-west transit connection between the San Fernando and San Gabriel Valleys. Metro's current project plan calls for zero-emission buses, enhanced stations, all-door boarding, transit signal priority, and dedicated bus lanes over the majority of the route.

60. The project is not an isolated shuttle serving one venue. It will connect communities, jobs, schools, services, and existing Metro lines. It will help fill a significant east-west gap in the transit network and improve connections between Metro's B and G Lines in North Hollywood and the A Line in Pasadena. Measure M allocated funding to advance this connection between the San Fernando and San Gabriel Valleys.

61. The corridor will also contribute to Games mobility by strengthening connections among the northern and eastern portions of Metro's network and improving access toward venue areas in the San Fernando Valley (four venues), Universal City (one venue), and Pasadena (two venues). Its value is therefore not limited to passengers who board the BRT to reach a particular event. It increases the connectivity, capacity, and resiliency of the broader transit system.

62. The North Hollywood to Pasadena BRT Project is included within Metro's Twenty-Eight by '28 Initiative. Metro established that initiative to identify transportation projects that could be delivered in time for the Games while also providing long-term benefits to Los Angeles County communities. Metro's current program identifies 11 projects as completed and 17 as in progress. (See Metro Early Project Delivery, https://www.metro.net/about/early-project-delivery/ [last visited July 23, 2026], attached hereto as **Exhibit I**.)

63. The purpose of these projects is broader than transporting spectators. The Games will place extraordinary additional demand on a transportation system that must continue serving the people who live and work in Los Angeles County. The Twenty-Eight by '28 projects provide additional connectivity, capacity, reliability, and transportation alternatives needed to reduce the effect of Games travel on existing riders and the public.

64. Dedicated transit infrastructure is especially important under congested conditions. Because the majority of the North Hollywood to Pasadena BRT alignment will operate in dedicated, full-time bus lanes, its buses will be less exposed to the increased ambient traffic congestion expected during the Games than buses operating entirely in mixed traffic.

65. Dedicated bus lanes do not eliminate every possible source of delay. Buses may still be affected by intersections, incidents, passenger activity, and locations where they interact with other traffic. Nevertheless, separating buses from general traffic over most of the corridor substantially reduces their exposure to the queues and travel-time variability experienced by ordinary mixed-flow service.

66. The World Cup results illustrate why this distinction matters. I observed roadway travel times over 60 percent longer than comparison conditions on certain monitored segments, and I observed regular Metro buses operating more than 25 minutes behind schedule. Many of the Metro bus lines observed operate on a 10-minute frequency, so delays of 25 minutes significantly affect operations throughout the entire line. A bus operating in a dedicated lane is better positioned to avoid or bypass the general traffic conditions that produced those delays.

67. Without the North Hollywood to Pasadena BRT Project, riders in this corridor will have fewer opportunities to avoid Games-related congestion. Buses remaining in mixed traffic will be more

vulnerable to the same increases in delay and unreliability that I observed during the World Cup, but under a Games operating environment that will be more geographically widespread and significantly more complex.

68. The consequences would affect spectators and the Games workforce, but they would also affect regular Metro riders. The delays I observed during the World Cup fell on riders with no connection to the event, including riders traveling to work, school, and medical appointments. .

69. Many Metro riders do not have a practical alternative to public transit. For these riders, a substantial transit delay is not simply an inconvenience. It may affect their employment, education, healthcare, childcare, income, and ability to meet essential daily responsibilities.

70. The ability to provide predictable travel time is therefore a major public benefit of the North Hollywood to Pasadena BRT Project. A reliable transit trip allows people to plan their lives. When transit travel time varies substantially and unexpectedly, riders must either leave much earlier or accept an increased risk of arriving late.

71. Metro's funding and programming records are among the records I use in the ordinary course of my work, and I rely on them in planning and delivering Metro’s speed and reliability and bus lane projects. Those records identify the North Hollywood to Pasadena BRT Project as funded in part through Measure M, the transportation sales tax approved by 71.15 percent of Los Angeles County voters in 2016.

72. Measure M established a long-term, voter-approved funding commitment to improve mobility, reduce congestion, expand transit, and advance projects including the North Hollywood to Pasadena corridor. In my work at Metro, Measure M is the primary funding source that allows this corridor to proceed.

73. The North Hollywood to Pasadena BRT Project is the type of high-capacity, reliable transit improvement the Measure M program funds. Based on my experience delivering transit projects at Metro, the capacity, connectivity, and trave-time reliability described above are the benefits that funding of this kind is directed to produce.

VII. Transportation Harm if the Project is Not Available for the 2028 Games

74. Based on my professional experience and the newly available World Cup information, I conclude that failure to complete the North Hollywood to Pasadena BRT Project before the Games would materially reduce Metro's ability to provide reliable transit service during a period of extraordinary transportation demand.

75. The World Cup demonstrated that major-event traffic can increase roadway travel times substantially and cause regular Metro buses to operate more than 25 minutes behind schedule. The Games will involve far more events (100 times more), many more venues, five times more buses, overlapping ingress and egress periods, a larger geographic footprint, and less ability to isolate or reroute around a single congestion area. (See slide presentation comparing scale of 2026 FIFA World Cup in Los Angeles to LA28 Olympic Games, attached hereto as **Exhibit J**.)

76. Without the project, buses and riders in the North Hollywood-to-Pasadena corridor will remain more exposed to general traffic congestion and travel-time variability. Metro would have less reliable east-west transit capacity connecting important communities and existing high-capacity transit lines at the time that the regional transportation network is under its greatest demand.

77. The resulting harm would not be limited to the success of the Games. It would be borne by regular Metro riders and members of the public attempting to continue their daily lives. Riders would face longer and less predictable trips, increased risk of arriving late, missed connections, reduced effective service, and less confidence that transit can meet their essential transportation needs.

78. Temporary operating measures cannot fully replace a completed BRT facility. Metro may adjust schedules, add supervisors, modify routes, deploy additional buses where resources permit, or request traffic signal changes. Those measures may address individual problems, but they do not create a dedicated right-of-way and cannot insulate buses from widespread regional congestion.

79. The transportation capacity and reliability that are unavailable during the Games cannot be provided retroactively after the Games have ended. A trip missed, a work shift reached late, or an appointment missed because of an unreliable transportation system cannot be corrected merely by completing the project at a later date.

80. For these reasons, it is my professional opinion that timely completion of the North Hollywood to Pasadena BRT Project is important to Metro's Games transportation plan, the reliability of the broader regional transit network, and the ability of existing Metro riders and the public to continue traveling during the Games with the least practicable disruption.

81. The newly available World Cup data reinforces this conclusion. They provide actual, observed evidence that major-event traffic can substantially worsen roadway travel times and delay ordinary bus service. Because the Games will be operationally larger, more geographically dispersed, and more complex than the World Cup, projects such as the North Hollywood to Pasadena BRT are necessary to reduce foreseeable transportation harm and provide reliable mobility during the Games.

I declare under penalty of perjury under the laws of this state that the foregoing is true and correct. This declaration was executed on July 27, 2026, at Los Angeles, California.

JAMES SHAHAMIRI

SHAHAMIRI DECLARATION
INDEX OF EXHIBITS

Declaration of James Shahamiri

EXHIBIT A

LOS ANGELES WORLD CUP 26 FAN ZONES

THE WORLD CUP — ACROSS THE LOS ANGELES REGION

The Los Angeles World Cup 26 Fan Zones extend the excitement of FIFA World Cup 2026™ into communities across LA County — bringing live match viewing and immersive fan experiences closer to where you live, work, and gather.

For 39 days, neighborhoods throughout the region will become vibrant hubs of football, culture, and connection.

LOS ANGELES WORLD CUP 26 FAN ZONES LOCATIONS

The following locations have been selected as Los Angeles World Cup 26 Fan Zones:

Manage consent

THE ORIGINAL FARMERS MARKET

JUNE 18-21

Featuring a full slate of group stage matches, including USA vs. Australia and Mexico vs. Korea Republic

The event will include family fun soccer zones, beer gardens, and the best international cuisine from the Market's 40 plus eateries and specialty shops.

GO METRO

Take Metro D Line to Fairfax Station, then connect to bus 217 and exit Fairfax/3rd.

Buses run every 10 minutes

TICKETS

CITY OF DOWNEY

JUNE 20

Featuring key group stage matchups including Germany vs. Côte d'Ivoire and Tunisia vs. Japan

The event will include an opening ceremony, large viewing area, entertainment, soccer exhibition, art walk, interactive booths, food vendors and a beer garden.

GO METRO

Take Metro C Line to Lakewood Station, then connect to bus 266 and exit Lakewood/Firestone.

Buses run every 10 minutes

TICKETS

THE HEART OF THE CITY: UNION STATION

JUNE 25-28

Features simultaneous match viewing and marquee international matchups, including USA vs. Türkiye

The event will include DJ performances, meet & greets, interactive challenges, competitive activities, and immersive experiences.

GO METRO

To get here, Union Station is accessible by Metro A, B, D, and J Line

TICKETS

HANSEN DAM LAKE

JULY 2-5

Featuring Round of 32 matches in a festival-style environment

The event will include a transformed lakefront view featuring DJ performances, global food, beer gardens, movie cars, muralists, games with prizes and nonstop entertainment.

TICKETS

LA COUNTY'S EARVIN "MAGIC" JOHNSON PARK

JULY 4-5

Featuring feature Round of 16 matches

The event will include fun activities for the whole family, a community marketplace, resources, music, food trucks, drinks and more.

GO METRO

Take Metro C Line to Avalon Station and walk, bike, or take a pedicab to the Fan Zone

TICKETS

LOS ANGELES COUNTY WHITTIER NARROWS

JULY 9-11

Featuring key knockout stage matches

The event will include cultural activities, a community marketplace and a range of local eats. After the matches, fans can explore the vast park and discover all that the San Gabriel Valley has to offer.

GO METRO

Take Foothill Transit Bus 269 and get off at Santa Anita Ave and Merced Ave

TICKETS

VENICE BEACH

JULY 10-11

Features knockout stage matches in one of LA's most iconic destinations

The event will include global food vendors and beverage gardens, live music, DJs, cultural performances and additional family programming.

GO METRO

Take Metro E Line to Downtown Santa Monica Station, then connect with Big Blue Bus Lines 1 or 2 and exit Main St/Rose Ave.
Buses run every 10-20 minutes

TICKETS

FAIRPLEX

JULY 14-15 & JULY 18-19

Features multi-game packages including Semi-finals, Bronze, and Final matches

The event will include interactive games, crafts, appearances from local mascots, educational "science of soccer" exhibitions and activities, and a house DJ.

GO METRO

Take Metro A Line to Pomona North Station, then connect with Foothill Transit bus 197 and get off at White Ave/McKinley Ave near Fairplex Red Gate entrance

TICKETS

WEST HARBOR

JULY 14-15 & JULY 18-19

Featuring Semi-final and Final matches

The event will include soccer-inspired activities, interactive experiences, great food, drinks, and a live DJ,

GO METRO

Take Metro rapid bus J Line to San Pedro and get off at Beacon/1st stop

TICKETS

DOWNTOWN BURBANK

JULY 18-19

Features the tournament's final matches, including the FIFA World Cup 2026™ Final

The event will include live entertainment, family-friendly games, VIP Experiences, and an adjacent free international street fair with global flavors and cultural experiences.

GO METRO

Take Metrolink AV or VC Line from Union Station and exit Burbank Station

TICKETS

26
LOS ANGELES
WORLD CUP HOST CITY SUPPORTER

AMGEN ARCHER Kaiser Permanente Los Angeles Metro

Declaration of James Shahamiri

EXHIBIT B

Travel Time Reliability:
Making It There On Time, All The Time

Overview

Travel time reliability is an increasing concern of travelers, shippers, and businesses. Recent advances in data collection mean that travel time reliability can now be quantified. This report provides guidance in answering the following questions:

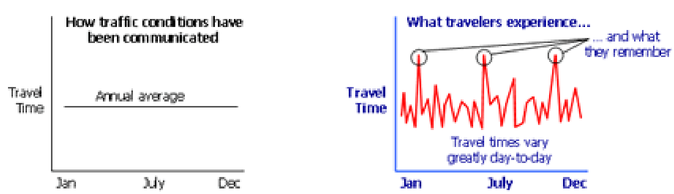
What is travel time reliability?

Few people will dispute the fact that traffic congestion is common in many cities in the United States. In these cities, drivers are used to congestion and they expect and plan for some delay, particularly during peak driving times. Many drivers either adjust their schedules or budget extra time to allow for traffic delays. But what happens when traffic delays are much worse than expected? Most travelers are less tolerant of unexpected delays because they cause travelers to be late for work or important meetings, miss appointments, or incur extra childcare fees. Shippers that face unexpected delay may lose money and disrupt just-in-time delivery and manufacturing processes.

In the past, we have communicated traffic congestion only in terms of simple averages (left side of Figure 1). However, most travelers experience and remember something much different than a simple average throughout a year of commutes (right side of Figure 1). Their travel times vary greatly from day to day, and they remember those few bad days they suffered through unexpected delays.

Figure 1. Averages do not tell the full story

(Click figure to enlarge)

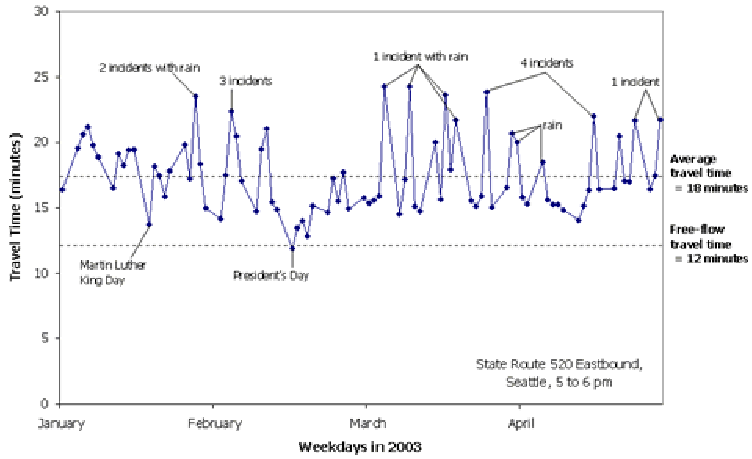


Travel time reliability measures the extent of this unexpected delay. A formal definition for travel time reliability is: **the consistency or dependability in travel times, as measured from day-to-day and/or across different times of the day.**

Figure 2 further illustrates travel time reliability with data from a major commuter route in Seattle, Washington. If there is no congestion on this route, travel times are about 12 minutes (e.g., see President's Day in the figure). On all other weekdays, the average travel time was 18 minutes, or an average speed of 40 miles per hour (mph). But when traffic incidents and weather combine to cause unexpected delay, it could take nearly 25 minutes, or 39 percent longer. Commuters who travel this route must plan for this variability if they want to arrive on time—the average just will not do. If they plan their commute based on the average travel time, they will be late half the time and early the other half of the time.

Figure 2. Commuters plan trips based on the worst days, not the average day

(Click figure to enlarge)



Source: Traffic Congestion and Reliability: Trends and Advanced Strategies for Congestion Mitigation, September 1, 2005, available at http://ops.fhwa.dot.gov/congestion_report/.

In other words, commuters have to build in a time cushion or ***buffer*** to their trip planning to account for the variability. If they build in a buffer, they will arrive early on some days, which is not necessarily a bad thing, but the extra time is still carved out of their day—time they could be using for other pursuits besides commuting.

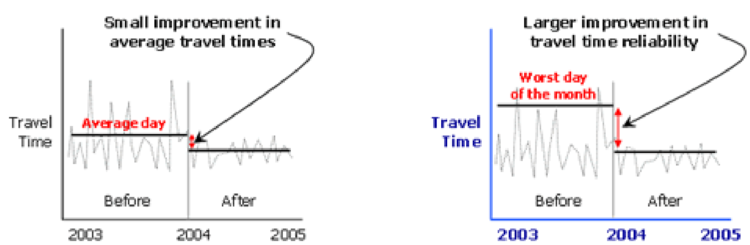
Why is travel time reliability important?

Travel time reliability is significant to many transportation system users, whether they are vehicle drivers, transit riders, freight shippers, or even air travelers. Personal and business travelers value reliability because it allows them to make better use of their own time. Shippers and freight carriers require predictable travel times to remain competitive. Reliability is a valuable service that can be provided on privately-financed or privately operated highways. Because reliability is so important for transportation system users, transportation planners and decision-makers should consider travel time reliability a key performance measure.

Traffic professionals recognize the importance of travel time reliability because it better quantifies the benefits of traffic management and operation activities than simple averages. For example, consider a typical before-and-after study that attempts to quantify the benefits of an incident management or ramp metering program. The improvement in average travel time may appear to be modest (left side of Figure 3). However, reliability measures will show a much greater improvement (right side of Figure 3) because they show the effect of improving the worst few days of unexpected delay.

Figure 3. Reliability measures capture the benefits of traffic management

(Click figure to enlarge)



What measures are used to quantify travel time reliability?

The measurement of travel time reliability is an emerging practice; however, a few measures appear to have technical merit and are easily understood by non-technical audiences. Most of these measures compare days with high delay to days with average delay. The four recommended measures: 90th or 95th percentile travel time, buffer index, planning time index, and frequency that congestion exceeds some expected threshold, are explained below.

Perhaps the simplest measure of travel time reliability is ***90th or 95th percentile travel times*** for specific travel routes or trips, which indicates how bad delay will be on the heaviest travel days. The 90th or 95th percentile travel times are reported in minutes and seconds and should be easily understood by commuters familiar with their trips. For this reason, this measure is ideally suited for traveler information. This measure has the disadvantage of not being easily compared across trips, as most trips will have different lengths. It is also difficult to combine route or trip travel times into a subarea or citywide average. Several reliability indices are presented below that enable comparisons or combinations of routes or trips with different lengths.

The ***buffer index*** represents the extra buffer time (or time cushion) that most travelers add to their average travel time when planning trips to ensure on-time arrival. This extra time is added to account for any unexpected delay. The buffer index is expressed as a percentage and its value increases as reliability gets worse. For example, a buffer index of 40 percent means that, for a 20-minute average travel time, a traveler should budget an additional 8 minutes (20 minutes × 40 percent = 8 minutes) to ensure on-time arrival most of the time. In this example, the 8 extra minutes is called the ***buffer time***. The buffer index is computed as the difference between the 95th percentile travel time and average travel time, divided by the average travel time.

This formulation of the buffer index uses a 95th percentile travel time to represent a near-worst case travel time. Whether expressed as a percentage or in minutes, it represents the extra time a traveler should allow to arrive on-time for 95 percent of all trips. A simple analogy is that a commuter or driver who uses a 95 percent reliability indicator would be late only one weekday per month.

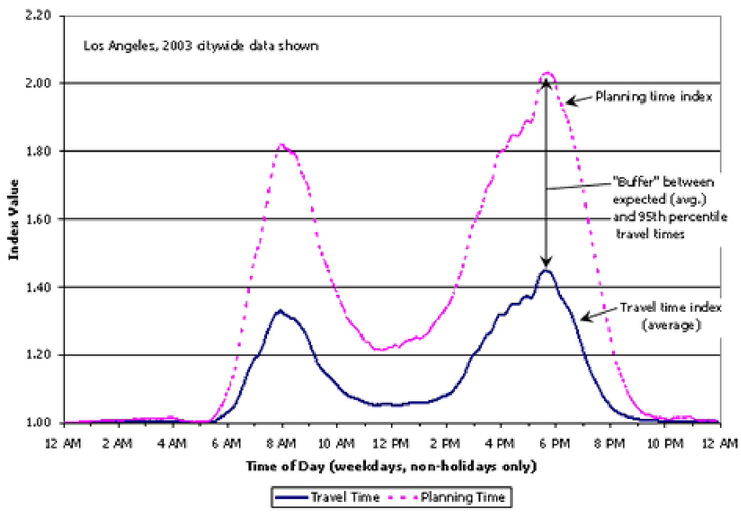
The ***planning time index*** represents the total travel time that should be planned when an adequate buffer time is included. The planning time index differs from the buffer index in that it includes typical delay as well as unexpected delay. Thus, the planning time index compares near-worst case travel time to a travel time in light or free-flow traffic. For example, a planning time index of 1.60 means that, for a 15-minute trip in light traffic, the total time that should be planned for the trip is 24 minutes (15 minutes × 1.60 = 24 minutes). The planning time index is useful because it can be directly compared to the travel time index (a measure of average congestion) on similar numeric scales. The planning time index is computed as the 95th percentile travel time divided by the free-flow travel time.

As with the buffer index, a 95th percentile travel time is used. Other percentiles, such as the 85th, 90th, or even 99th percentile, could be used depending upon the desired level of reliability. For example, a lower percentile may be used in calculating reliability measures for less critical routes or trips.

Figure 4 illustrates the relationship between the travel time index, the buffer index, and the planning time index. The travel time index represents the average additional time required during peak times as compared to times of light traffic. The buffer index represents the ***additional*** time that is necessary above the average peak travel time, whereas the planning time index represents the ***total*** travel time that is necessary.

Figure 4. Reliability measures are related to average congestion measures

(Click figure to enlarge)



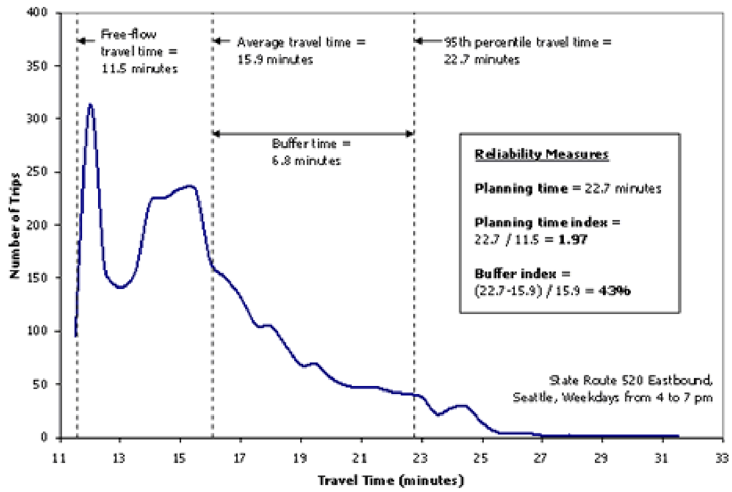
Source: Mobility Monitoring Program, http://mobility.tamu.edu/mmp/.

Figure 5 shows a similar relationship in the form of a frequency distribution for trip travel times. The figure shows an example of calculating the average travel time and the size of the "buffer"—the extra time needed by travelers to ensure a high rate of on-time arrival, which helps to illustrate a variety of reliability measures that describe reliability in slightly different ways:

- ***Planning time*** – The total travel time, which includes buffer time (i.e., calculated as the 95th percentile travel time).
- ***Planning time index*** – How much larger the total travel time is than the ideal or free-flow travel time (i.e., calculated as the ratio of the 95th percentile to the ideal). In the example route shown in Figure 5, the ideal travel time is 11.5 minutes, assuming that vehicles will travel at 60 miles per hour (mph) when no congestion is present.
- ***Buffer time*** – The extra time required (i.e., calculated as the difference between the 95th percentile travel time and the average travel time).
- ***Buffer index*** – The size of the buffer as a percentage of the average (i.e., calculated as the 95th percentile minus the average, divided by the average).

Figure 5. Reliability measures are easy to calculate with continuous data

(Click figure to enlarge)



Source: Traffic Congestion and Reliability: Trends and Advanced Strategies for Congestion Mitigation, September 1, 2005, available at http://ops.fhwa.dot.gov/congestion_report/.

The last reliability measure presented here is ***frequency that congestion exceeds some expected threshold***. This is typically expressed as the percent of days or time that travel times exceed X minutes or travel speeds fall below Y mph. The frequency of congestion measure is relatively easy to compute if continuous traffic data is available, and it is typically reported for weekdays during peak traffic periods.

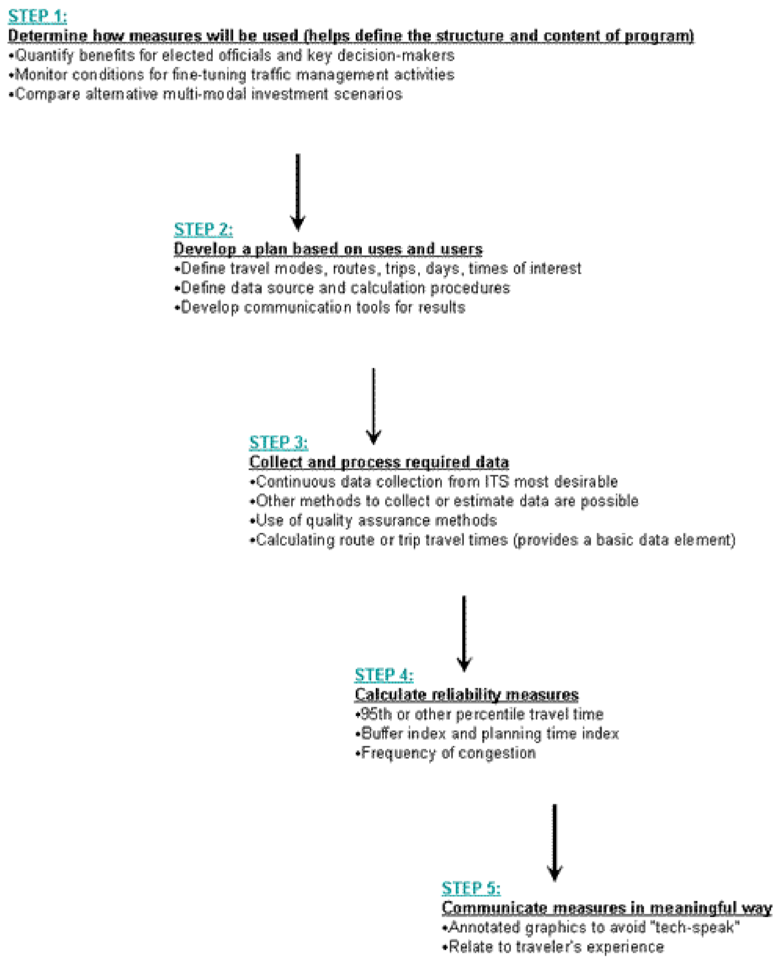
Several statistical measures of variability have been suggested to quantify travel time reliability, such as standard deviation and coefficient of variation. These are discouraged as performance measures, as they are not readily understood by non-technical audiences nor easily related to everyday commuting experiences.

What are the steps to develop travel time reliability measures?

Now that you understand the basics of travel time reliability, you may be asking "How can I start producing travel time reliability statistics in my city?" The steps shown in Figure 6 serve as an outline, with additional technical details, measure calculation procedures, and case study examples provided in the following sections.

Figure 6. A methodical approach can be used to produce travel time reliability measures

(Click figure to enlarge)



Steps to develop travel time reliability measures

Step 1: Determine how the reliability measures will be used

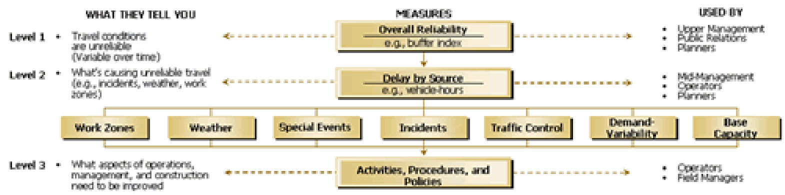
How you plan to use reliability measures will help to define nearly all aspects of measuring and calculating travel time reliability. Thus, this first step is vitally important for defining the structure and content of your program. Typical questions to ask include:

- Will the reliability measures be used to quantify the benefits of existing traffic operations to elected officials? If so, then continuous traffic data will most likely be available to calculate reliability using easy-to-understand measures.
- Will the reliability measures be used to monitor statewide highway travel conditions? If so, "special studies" data collection may be required on roadways where continuous traffic data is not collected for operations purposes.
- Will the measures be used to compare alternative multi-modal investment scenarios in the future? If so, then travel times will have to be estimated using forecasting or simulation models as part of the planning process.

Understanding how the reliability measures will be used and by whom will provide a strong foundation for your performance measurement program. Figure 7 shows an example application of reliability measures for traffic operations. In this example, the reliability measures will be used by upper management and planners to determine baseline levels of travel time reliability (Level 1). Further analysis can identify what is causing unreliable travel (Level 2). Activities, procedures, and policies are then initiated to target specific areas of improvement (Level 3).

Figure 7. Establish who will use reliability measures and how they will use them

(Click figure to enlarge)



Step 2: Develop a plan based upon intended uses and users

Once the intended uses and users have been defined in Step 1, a plan should be developed that outlines various elements related to collecting data, calculating measures, and reporting results (Steps 3 through 5). For example, the plan should cover information such as:

- What travel modes will be included?
- What routes, trips, or roadways will be included?
- What days and time periods are of interest?
- How will data be collected, gathered, or estimated?
- What data processing or reduction steps are necessary once we accumulate the data?
- What reliability measures will be calculated?
- What database or software applications will be used to calculate measures?
- What tables, charts, or graphics will be used to communicate reliability?
- How frequent will reliability be reported?
- How will you get user feedback on the reliability measures?

Step 3: Collect and process required data

Data collection

The basis for all of the reliability measures is route or point-to-point travel times. There are four basic ways in which these travel times can be developed:

1. Directly calculated from continuous probe vehicle data;
2. Estimated from continuous point-based detector data;
3. Collected in periodic special studies (e.g., floating car runs); and,
4. Estimated using computer simulation, sketch planning, or demand forecasting models.

The selection of data collection techniques will be based largely on the intended use(s) of the reliability measure, program scope, and available resources. It is possible that more than one of these data collection techniques could be used to obtain travel time data.

Discretion should be used when directly comparing travel times from different methods, as each method may have unique but consistent internal biases. Consider, for example, that travel times along a particular route have been collected for three years using periodic special studies. The deployment of point-based detectors in the fourth year provides the ability to estimate travel times using spot speeds. Caution is advised in making direct comparisons between the first three years of travel time data (from special studies) and the fourth year (from continuous point-based detectors).

Currently, there are few agencies that continuously collect travel time data by direct measurement (such as probe vehicles). It is recognized that all methods of calculating or estimating travel time data produce some error. Professional judgment should be used to determine whether the likely estimation errors exceed those permissible for the applications of the reliability measures. Agencies should also recognize that near-term and future advances in traffic monitoring are likely to provide more than sufficient quantity and quality of travel time data for reliability measures.

Data processing

Once travel time data have been collected or gathered, it is likely that some intermediate data processing or reduction will be necessary. In most cases, the data will be collected or gathered in a more detailed format than is needed for calculation of reliability measures. For example, probe vehicle data will need to be associated with roadway links and combined for specified time periods. Point-based detector data will require the estimation of link-based travel time for aggregate time periods. Travel time data from special studies will need to be downloaded from field collection equipment and integrated into a database. Travel time data estimated from modeling processes will have to be imported into a database.

This step also includes quality assurance to ensure that accurate and valid travel times are used in the calculation steps. Quality assurance may be more significant in this step if the travel time data have been collected for real-time applications but archived for historical use (such as with archived probe vehicle or detector data from traffic operations). The real-time applications may have different quality requirements; thus, additional quality assurance may be necessary. Quality assurance for periodic special studies (such as floating car runs) should be integrated throughout the data collection and reduction process.

Travel time calculation

Once quality assurance has been performed and necessary data processing and reduction has occurred, route travel times should be calculated for the applicable days and time periods. The exact procedures for calculating or estimating travel times from point or link data are not included in this guidance, as many possible methods and variations exist. There are numerous technical resources available that provide detailed information on travel time estimation. Perhaps of most importance are the consistency of estimation methods and the recognition of potential bias errors through sensitivity analyses.

The days and time periods for which travel times are calculated will similarly be defined by determining what conditions the reliability measures are to represent. For example, do you want to represent the reliability of travel for a particular season (several months) or the full year? Individual travel times will be required for those days that are to be represented. Do you want to differentiate the reliability during different times of the day (i.e., "peak of the peak" vs. "shoulders of the peak" vs. off-peak)? If so, individual travel times will be required during these different times of the day.

Step 4: Calculate reliability measures using route/trip travel times

Now that route/trip travel times have been calculated for the days and time periods of interest, we can use some basic equations for calculating the various reliability measures. Three of the four reliability measures require the calculation of a percentile—the frequency of congestion does not require percentiles. Most database or spreadsheet software applications provide a built-in function to calculate percentiles.

Reliability measures:

- 95th or other percentile travel time – calculate directly with database or spreadsheet function
- Buffer index – calculate using Equation 1
- Planning time index – calculate using Equation 2
- Frequency of congestion – calculate by counting the frequency that traffic conditions exceed a preset threshold

$$\text{For a specific route/trip and time period:}$$

$$\text{Buffer index (\%)} = \frac{\underset{\text{(minutes)}}{95^{th}\text{ percentile travel time}} - \underset{\text{(minutes)}}{\text{average travel time}}}{\underset{\text{(minutes)}}{\text{average travel time}}} \qquad \textbf{\textit{Equation 1}}$$

$$\text{For a specific route/trip and time period:}$$

$$\underset{\text{(no units)}}{\text{Planning time index}} = \frac{95^{th}\text{ percentile travel time}}{\text{free} - \text{flow travel time}} \qquad \textbf{\textit{Equation 2}}$$

Note that these equations are for a specific route/trip and time period. The average planning time or buffer index values (across several road sections, time periods, etc.) can be calculated by using the vehicle-miles of travel (VMT) as a weighting factor (Equation 3).

$$\text{For several road sections and time periods:}$$

$$\text{Average index value} = \frac{\sum_{i=1}^{n} \left(\text{index value}_n \times VMT_n\right)_{\text{each section and time period}}}{\sum_{i=1}^{n} \left(VMT_n\right)_{\text{each section and time period}}} \qquad \textbf{\textit{Equation 3}}$$

Step 5: Communicate measures in easy-to-understand tables and graphics

Once reliability measures have been calculated, the results should be displayed in easy-to-understand tables and graphics that meet the needs of your users and uses (Step 1). There are numerous possibilities for communicating travel time reliability measures. Agencies are reminded to consider the likely audiences when communicating reliability measures, as well as to explain the reliability measures in a way that resonates with commuters and travelers. For example, the statistical formulation of 95th percentile is technically meaningful but not easily understood. Instead, use an analogy like "the worst traffic day of the month" (1 of about 20 workdays equals the 95th percentile).

Case Studies Illustrating Steps to Calculate Reliability Measures

Two hypothetical case studies are presented below to illustrate the process of calculating reliability measures. Case Study #1 and Case Study #2 have been simplified, but represent realistic scenarios that are likely to occur.

Case Study #1: Before-and-after evaluation of freeway incident management program

A large urban area is required to evaluate their freeway incident management program, which covers approximately 200 centerline miles of freeway. The evaluation is being performed in response to a request from elected officials and decision-makers to ensure the program is effective. Traffic operations personnel would also like to monitor the effectiveness of the program on a periodic basis.

Step 1: Determine how measures will be used

The evaluation results will be used by elected officials. In addition, traffic operators will use the analysis results to fine-tune incident management procedures as needed. The region has a continuous data source (inductance loop detectors) that provides lane-by-lane volume and speed data, which is archived and available for analysis.

Step 2: Develop a plan based on uses and users

The plan considers the following questions; *short answers* are provided:

What travel modes will be included?

Auto mode along the general-purpose lanes and transit/auto along the HOV lanes.

What routes, trips, or roadways will be included, and what days and time periods are of interest?

Morning (6 to 9 a.m.) and afternoon (4 to 7 p.m.) peak periods along the seven freeway routes covered by the program. General-purpose and HOV lanes analyzed separately. Analysis sections (3 to 5 miles long) with similar geometry will be identified.

How will data be collected, gathered, or estimated?

Archived inductance loop detector data.

What data processing or reduction steps are necessary?

Quality control of suspicious/incorrect data from the archived data. Expanding point detector speed estimates to morning and afternoon peak period corridor travel time estimates.

What reliability measure(s) will be calculated?

Buffer index.

What database or software applications will be used to calculate measures?

Database software to check for suspicious/incorrect data and to compute corridor travel time estimates.

What tables, charts, or graphics will be used to communicate reliability?

Yearly trends of incident response and clearance times, average travel times, travel time index and buffer index including three years prior to the program and the one year that the program has been in existence. Results broken out by peak period (and direction) and HOV vs. general-purpose lanes. Summary table of results.

How frequently will reliability be reported?

Every six months.

How will user feedback on the reliability measures be obtained?

Solicit feedback from elected officials and operations personnel.

Step 3: Collect and process required data

Archived data are analyzed for the three years before and one year after program implementation. Database software is used for data quality assurance and to aggregate lane-by-lane point detector speeds to section travel times.

Step 4: Calculate reliability measures using route/trip travel times

Compute buffer index (see Equation 1). Corridor travel time index and buffer index values are computed by weighting section values by VMT (see Equation 3).

Step 5: Communicate measures in easy-to-understand tables and graphics

Develop graphics identified in Step 2. Trend analysis graphics can be annotated to indicate how the findings relate to traveler's experiences. In particular, the results can identify the travel time reliability improvement in the HOV lane compared to the general-purpose lanes as well as the added improvement of the incident management program.

Case Study #2: Urban freeway travel time reliability monitoring

A state department of transportation (DOT) would like to monitor urban freeway travel time reliability in a large urban area. Understanding the need to track more than just average travel conditions, the DOT would like to begin monitoring travel time reliability on a quarterly basis. Travel time data are collected continuously through toll tag technology and archived.

Step 1: Determine how measures will be used

The evaluation will be used for internal purposes related to traffic operations. The DOT currently uses numerous traffic management strategies, including surveillance cameras, incident management program, closed-circuit televisions, and ramp meters. Evaluating travel time reliability for specific corridors will assist in identifying specific corridors where the operations treatments may require fine-tuning, while monitoring the entire system will provide an overall assessment.

Step 2: Develop a plan based on uses and users

The plan considers the following questions; *short answers* are provided:

What travel modes will be included?

Motorists in the general-purpose lanes.

What routes, trips, or roadways will be included and what days and time periods are of interest?

Morning (6 to 9 a.m.) and afternoon (4 to 7 p.m.) peak periods along the entire 300 centerline miles covered by tag readers. Analysis sections will be identified (3 to 5 miles) with similar geometry.

How will data be collected, gathered, or estimated?

Archived toll tag travel time data.

What data processing or reduction steps are necessary?

Quality control of suspicious/incorrect data from the archived data. Computing average sectional travel times for the morning and afternoon peak period.

What reliability measure(s) will be calculated?

Buffer index, planning time index.

What database or software applications will be used to calculate measures?

Database software is used to check for suspicious/incorrect data and to compute peak-period corridor travel time estimates from link and section data.

What tables, charts, or graphics will be used to communicate reliability?

Yearly trends of travel time index, buffer index and planning time index for the past five years of archived data by quarter. Results broken out by facility and peak period (and direction) for the general-purpose lanes. Time-of-day graphics indicating peaking characteristics and comparison between the travel time index and planning time index (see Figure 4). Summary table of results.

How frequently will reliability be reported?

Every three months.

How will user feedback on the reliability measures be obtained?

Solicit feedback from operations personnel.

Step 3: Collect and process required data

Archived data are analyzed for the previous five years. Database software is used for data quality assurance and to aggregate link travel times to section travel times.

Step 4: Calculate reliability measures using route/trip travel times

Compute buffer and planning time index (see Equations 1 and 2). Corridor travel time index, buffer index and planning time index values can be computed by weighting section values by VMT (see Equation 3).

Step 5: Communicate measures in easy-to-understand tables and graphics

Develop graphics identified in Step 2. Trend analysis graphics can be annotated to indicate how the findings relate to traveler's experiences. The graphics can also be annotated for each section/corridor with the extent of operations treatments present. This would assist DOT operations personnel in identifying where unreliable travel conditions exist and the existing operations treatments that might be altered (coverage, timing) to improve reliability.

Who is using reliability measures?

Travel time reliability measures are relatively new in transportation analyses, at least for most public agencies who in the past have only been concerned with average conditions. There are a few "early adopters" of reliability measures, and these agencies have primarily used travel time reliability as a performance measure to supplement measures of average congestion. The rest of this section highlights a few examples of how reliability measures are being used.

National traffic congestion and reliability monitoring

Measuring travel time and reliability in freight-significant corridors

State DOT traveler information and performance measures

Travel time reliability at international border crossings

Southern California Association of Governments (SCAG) goods movement study

National Transportation Operations Coalition (NTOC): performance measure initiative

National traffic congestion and reliability monitoring

The Federal Highway Administration (FHWA) Office of Operations supports a national traffic monitoring program that incorporates reliability measures. This program tracks reliability measures like the buffer index and planning time index in more than 30 cities. For example, Figure 4 shows the 2003 areawide values for travel time index (average congestion level) and planning time index by time-of-day for Los Angeles. Notice in the chart how, during the peak traffic times, the gap (or buffer) between the planning time index and travel time index increases. This unreliability during peak times means that commuters would have to nearly double their travel time (i.e., planning time index value of 2.0) during light traffic to arrive on-time during rush hour.

One of the ways that FHWA communicates current information on national traffic congestion and travel reliability to key decision-makers is a monthly dashboard report (see Figure 8). This dashboard report includes trend information on the duration (hours of congested travel per day), magnitude (travel time index), and reliability (planning time index).

Figure 8. A reliability measure is included in FHWA's Monthly Congestion Dashboard Report.

(Click figure to enlarge)

Status: Green Progress: Green	NATIONAL CONGESTION INDICATORS								
	Hours of Congested Travel Per Day			Travel Time Index			Planning Time Index		
Current Quarter	4.8			1.28			1.69		
Same Quarter, Previous Year	5.2			1.29			1.71		
Change, vs. Previous Year	6.9%			0.8%			1.0%		
NATIONAL CONGESTION PATTERN	# of Cities DOWN >5%	# of Cities, NO CHANGE	# of Cities UP >5%	# of Cities DOWN >5%	# of Cities, NO CHANGE	# of Cities UP >5%	# of Cities DOWN >5%	# of Cities, NO CHANGE	# of Cities UP >5%
Total Cities:19	9	4	6	2	17	0	4	13	2

Measuring travel time and reliability in freight-significant corridors

FHWA recognizes that the timely and reliable movement of trucks is critical to the economy and a key element of the U.S. DOT's goal to support global connectivity. To better understand how the surface transportation network is accommodating this demand, FHWA launched the Freight Performance Measurement initiative to monitor travel times in freight-significant corridors and delays at major border crossings (http://ops.fhwa.dot.gov/freight/time.htm).

In 2002, FHWA established a partnership with the American Transportation Research Institute (ATRI) to determine whether and how information derived from communications technologies used by the freight industry could provide FHWA with data to support the measurement of freight performance on the surface transportation system. During the initial two phases of the Freight Performance Measurement initiative, ATRI worked with technology vendors and commercial carriers to demonstrate that location data from communications technologies can be used to derive measures of travel time and reliability.

After removing all information except time and location from the Qualcomm satellite data stream, ATRI measured average travel times for five freight-significant corridors—I-5, I-10, I-45, I-65, and I-70. The data were used to derive average travel rates, travel time index and buffer index. Corridor characteristics are shown in Table 1.

From Table 1, applying buffer index data to a freight flow scenario, a commercial vehicle operator moving goods from one end of I-5 (San Diego, CA) to the other end (Blaine, WA) would have to add approximately 6 hours of buffer time ([1,381 miles / 48 mph] x 0.20) to ensure, with 95 percent confidence, that the driver would arrive on time.

Table 1. Characteristics of freight-significant corridors.

Corridor	States on Route	Major Cities on Route	Length (miles)	Average Speed (mph)	Travel Time Index	Buffer Index
I-5	California, Oregon, Washington	San Diego, Los Angeles, Portland, Tacoma, Bellingham, Olympia, Seattle	1,381	48	1.24	20%
I-10	California, Arizona, New Mexico, Texas, Louisiana, Mississippi, Alabama, Florida	Los Angeles, Phoenix, Las Cruces, El Paso, Houston, Beaumont, San Antonio, New Orleans, Gulfport, Mobile, Pensacola, Tallahassee, Jacksonville	2,460	54	1.11	25%
I-45	Texas	Galveston, Houston, Dallas	285	54	1.10	4%
I-65	Alabama, Tennessee, Kentucky, Indiana	Indianapolis, Louisville, Nashville, Birmingham, Montgomery, Mobile	887	56	1.08	6%

I-70	Utah, Colorado, Kansas, Missouri, Illinois, Indiana, Ohio, W. Virginia, Pennsylvania, Maryland	Cove Fort, Denver, Topeka, Kansas City, St. Louis, Indianapolis, Springfield, Wheeling, Breezewood, Hagerstown, Frederick, Baltimore	2,153	53	1.14	16%

Source: Measuring Travel Time in Freight-Significant Corridors, April 2005, available at http://ops.fhwa.dot.gov/freight/time.htm.

State DOT traveler information and performance measures

The Washington State Department of Transportation (WSDOT) quarterly performance report, the Gray Notebook, is one of the nation's leading examples of effective performance monitoring (http://www.wsdot.wa.gov/accountability/). WSDOT continually improves the Gray Notebook to better communicate how it is addressing state transportation issues. In 2002, WSDOT introduced the concept of travel time reliability and recent efforts to distinguish between recurring and nonrecurring congestion. WSDOT acknowledges that travel time reliability is one of the traveling public's most important concerns. WSDOT uses archived freeway operations data to develop several congestion measures (including reliability) for the Seattle region. Examples of the metrics reported by WSDOT include the following, reported as current conditions and changes in annual trends.

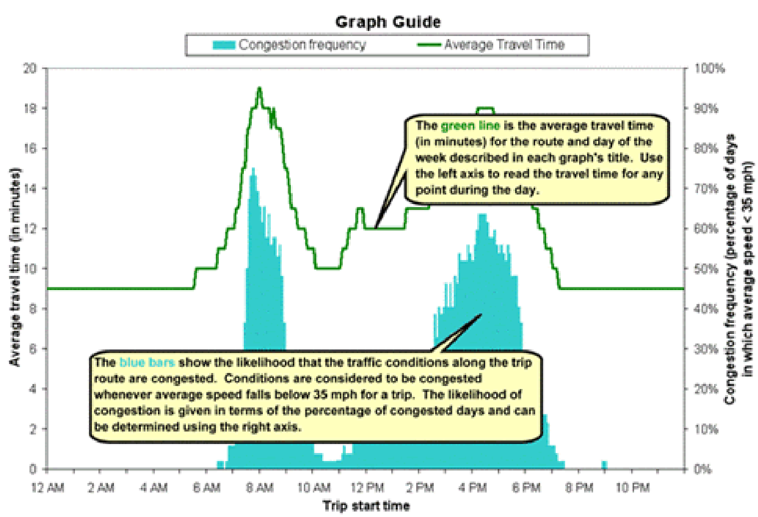
- For specific commuter route segments (7 to 24 miles in length):
  - The time of day (e.g., 5:20 p.m.) that experiences the worst congestion;
  - Travel time on the segment during the peak time;
  - "95 percent Reliable Time" (the 95th percentile of travel time);
  - Number of days when travel time exceeded twice the free-flow travel time; and
  - Percent of days where average route speed was less than 35 mph.
- For entire named freeways in the region:
  - Vehicle-hours of delay per day;
  - Vehicle-hours of delay per highway mile; and
  - Vehicle-miles traveled.
- Case studies documenting before/after congestion conditions.

WSDOT provides commuter travel time mobility and reliability information from archived data. Figure 9 illustrates the congestion frequency and average travel time for commuters. Such graphs are available for typical commutes in the Puget Sound area. Travel time reliability is indicated with the congestion frequency, which is the percentage of days in which the average speed is less than 35 mph.

Figure 10 shows another method WSDOT uses to present travel time reliability information to commuters. Commuters can select their particular commute, and the "95 percent Reliable Travel Time" is presented to the user. This value is computed in the same manner as the buffer time described above. In Figure 10, the Internet site indicates that if the commuter allows 59 minutes to travel from Everett to downtown Seattle, they will be on time 19 out of 20 weekdays per month.

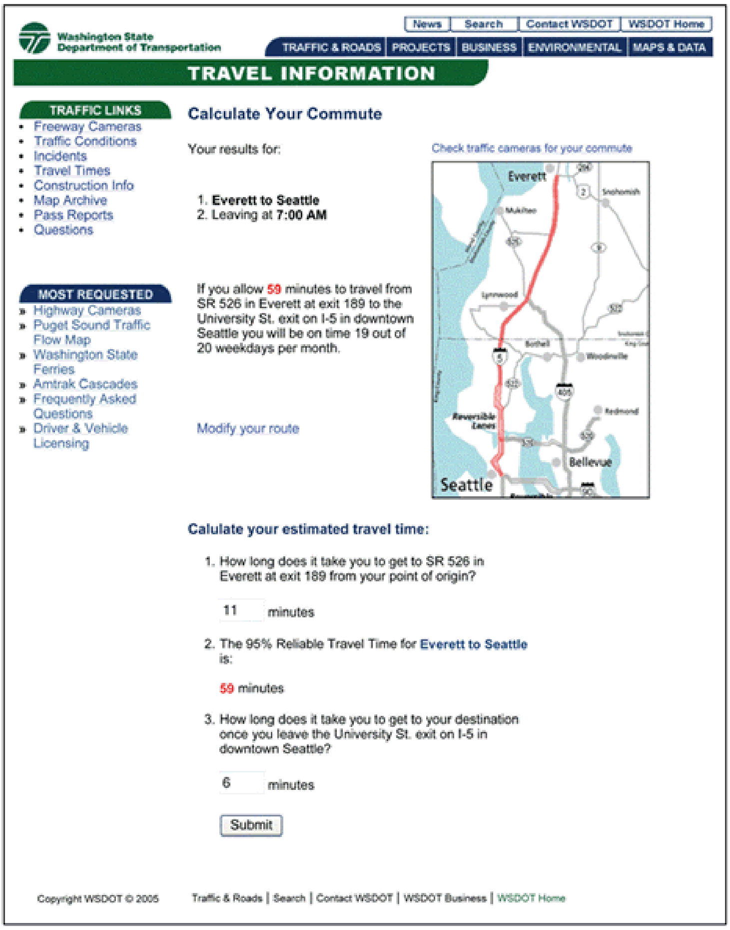
Figure 9. WSDOT travel time mobility and reliability corridor data.

(Click figure to enlarge)



Source: WSDOT's Central Puget Sound Average Travel Times web page, available at http://www.wsdot.wa.gov/traffic/seattle/traveltimes/commutes/.

Figure 10. WSDOT commuter reliability information.



Source: WSDOT's Calculate Your Commute web page, available at http://www.wsdot.wa.gov/traffic/seattle/traveltimes/reliability/.

Travel time reliability at international border crossings

The purpose of this FHWA study was to determine a benchmark border crossing delay measure for commercial vehicles (http://www.ops.fhwa.dot.gov/freight/publications/index.htm). Seven ports of entry were surveyed: four on the US/Canada border (Blaine, Ambassador Bridge, Peace Bridge, and Blue Water Bridge) and three on the US/Mexico border (Otay Mesa, El Paso, Laredo). Average delay times were calculated for each port of entry. The delay time represents the difference between the average crossing time and the free-flow crossing time.

A buffer time and buffer index was also calculated for each port of entry. The buffer time is the difference between the 95th percentile crossing time and the average crossing time for all trucks. The buffer time, then, represents the "extra time" above the average that a driver must budget to cross the border and arrive "on time" for 95 percent of the trips. The buffer index is the buffer time expressed as a percentage of average time (i.e., the extra percentage of time that must be budgeted to cross the border). As such, the buffer index eliminates differences in the physical length of crossings and provides a standardized measure among ports.

Table 2 shows the computed operating characteristics for the Ambassador Bridge crossing, including the buffer time and buffer index. Table 2 illustrates that the inbound trip reliability (as measured by the buffer time) is nearly three times as low as the outbound trip.

Table 2. Operating characteristics of the Ambassador Bridge crossing.

Trip	Baseline Crossing Time[1]	Average Crossing Time[2]	95th Percentile Time[3]	Buffer Time[4]	Buffer Index[5]
Outbound	5.7	8.8	13.9	4.9	56%
Inbound	12.9	20.4	33.9	13.4	66%

Notes:

[1]Baseline time (in minutes) to travel the study distance (between the starting point in the exporting country and the initial inspection point in the importing country) in free-flow traffic conditions.

[2]Average crossing time (in minutes) to travel the study distance.

[3]Time (in minutes) for 95 percent of trucks to travel the study distance.

[4]Time (in minutes) between the average time and the 95th percentile time for trucks to travel the study distance. This is the extra time that must be budgeted to cross the border relative to the average time.

[5]Buffer time necessary expressed as a percentage of average time. This is the extra percentage of average time that must be budgeted to cross the border.

Source: International Border Crossing Truck Travel Time for 2001, April 2002, available at http://www.ops.fhwa.dot.gov/freight/documents/ambass_brdg_over.pdf.

Southern California Association of Governments (SCAG) goods movement study

Substantial growth in harbor freight in the SCAG region is overwhelming surface transportation and reducing air quality and causing noise pollution. SCAG recently completed a study to identify solutions to the issues of goods movement in the SCAG region (http://www.scag.ca.gov/goodsmove/pdf/GoodsmovePaper0905.pdf). SCAG economic staff has been evaluating benefits and costs of increasing transportation logistics infrastructure. Fee structures to support the infrastructure expansion have also been developed by SCAG.

Travel time reliability has been incorporated into the SCAG analysis. The infrastructure proposed (separate truck lanes) would improve travel time reliability for freight movement. SCAG used buffer time to identify the additional time that must be factored into a trip to ensure goods reach their destination on schedule. Table 3 illustrates the results of a 2030 model to estimate the impact on time and reliability with separate truck lanes. The model compared conditions to planned projects being developed. In 2030, a shipper would save 128 actual minutes and another 276 "buffer" minutes for a total of 405 fewer minutes (6.75 hours) for a shipment. This equates to total speed and reliability savings of nearly $500 per trip.

Table 3. Value of infrastructure at morning peak travel times, 2030.

To/From Harbors	Travel Time Saved (minutes)	Planning Time Saved (minutes)	Total Time Saved (minutes)	Value of Time Saved @ $73/Hour
To Downtown	26	59	85	$103
From Downtown	30	68	97	$118
To Ontario	62	130	192	$233
From Ontario	88	210	298	$361
To Victorville	96	189	285	$345
From Victorville	128	276	405	$490

Source: *Goods Movement in Southern California: The Challenge, The Opportunity, and The Solution*, September 2005, *http://www.scag.ca.gov/goodsmove/pdf/GoodsmovePaper0905.pdf*.

National Transportation Operations Coalition (NTOC): Performance measure initiative

The NTOC Action Team on Performance Measurement recently conducted an initiative with the goal to define a candidate list of measures commonly agreed upon by federal, state, and local transportation officials (http://www.ntoctalks.com/ntoc/ntoc_final_report.pdf). The initiative included a literature review, electronic survey and discussions by the NTOC team and oversight committee. The process used to identify the measures was designed to ensure the measures were identified and elected by stakeholders who will collect the data, report results, and benefit from learning from best practices. A "one-pager" of each measure was produced that includes the measure definition, what it includes, units of measurement, processing (how to measure), typical applications, short examples, and additional notes (if applicable). Travel time reliability was identified as one of the measures identified by the NTOC team. Specifically, buffer time was identified as the measure and a "one-pager" was created to simply illustrate how the buffer time is computed. Instruction is also provided regarding computation of the measure as an index (percentage).

For additional information

Contact Rich Taylor, FHWA Office of Operations, Rich.Taylor@fhwa.dot.gov, (202) 366-1327.

Produced by Texas Transportation Institute with Cambridge Systematics, Inc., December 2005.

To view PDF files, you need the Adobe Acrobat Reader.

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EXHIBIT C

metro.iteris-clearguide.com/reports?dows=mon&dows=tue&dows=wed&dows=thu&dows=fri&dows=sat&dows=sun&dows=holidays&e_timestamp=1782457199&granularity=5min&id=aggregated&metric=pti&output=table&render=true...

iteris ClearGuide ALMAVIVA GROUP

ROADWAYS SIGNALS ABOUT LOS ANGELES

REPORT: Time Comparison

DATE RANGE: **06/25/2026 - 06/25/2026**, DATE RANGE 2: **07/16/2026 - 07/16/2026**, METRIC 1: **Planning Time Index**
TIME OF DAY: **All**, INCLUDE DAYS: **All**

Show

Route Name	ID	6/25/26-6/25/26	7/16/26-7/16/26	Diff	% Diff	Length (mi)	Tags
Arbor Vitae St — Aviation Blvd → Prairie Ave — EB	5457	2.3	1.56	-0.74	-32.17%	1.92	world cup, world cup (sub-segment), world cup (full route)
Arbor Vitae St — Prairie Ave → Aviation Blvd — WB	5458	1.82	1.43	-0.39	-21.43%	1.92	world cup, world cup (sub-segment), world cup (full route)
Century Blvd — Crenshaw Blvd → La Cienega Blvd — WB	5456	3.57	1.62	-1.95	-54.62%	2.59	world cup, world cup (full route)
Century Blvd — La Cienega Blvd → Crenshaw Blvd — EB	5455	3.47	2.01	-1.46	-42.07%	2.59	world cup, world cup (full route)
Crenshaw Blvd — Imperial Hwy → Manchester Blvd — NB	5467	2.08	1.58	-0.5	-24.04%	2.04	world cup, world cup (full route)
Crenshaw Blvd — Manchester Blvd → Imperial Hwy — SB	5468	2.75	1.45	-1.3	-47.27%	2.04	world cup, world cup (full route)
Hawthorne Blvd — Arbor Vitae St → Imperial Hwy — SB	5464	2.07	1.64	-0.43	-20.77%	1.55	world cup, world cup (full route)
Hawthorne Blvd — Imperial Hwy → Arbor Vitae St — NB	5463	2	1.51	-0.49	-24.5%	1.54	world cup, world cup (full route)
Imperial Hwy — Crenshaw Blvd → Hawthorne Blvd — WB	5462	1.76	1.5	-0.26	-14.77%	1.54	world cup, world cup (sub-segment), world cup (full route)
Imperial Hwy — Hawthorne Blvd → Crenshaw Blvd — EB	5461	2.62	1.56	-1.06	-40.46%	1.54	world cup, world cup (sub-segment), world cup (full route)
Manchester Blvd — Crenshaw Blvd → La Cienega Blvd — WB	5478	3.35	1.5	-1.85	-55.22%	2.61	world cup, world cup (full route)
Manchester Blvd — La Cienega Blvd → Crenshaw Blvd — EB	5477	3.5	2.1	-1.4	-40%	2.6	world cup, world cup (full route)
Prairie Ave — Imperial Hwy → Manchester Blvd — NB	5465	3.69	1.43	-2.26	-61.25%	2.03	world cup, world cup (full route)
Prairie Ave — Manchester Blvd → Imperial Hwy — SB	5466	3.62	1.53	-2.09	-57.73%	2.03	world cup, world cup (full route)
Yukon Ave — 111th Pl → Century Blvd — NB	5526	3.01	1.64	-1.37	-45.51%	0.8	world cup, world cup (sub-segment), world cup (full route)
Yukon Ave — Century Blvd → 111th Pl — SB	5527	1.87	1.58	-0.29	-15.51%	0.8	world cup, world cup (sub-segment), world cup (full route)

Showing 1 to 16 of 16 entries Show 25 entries

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Declaration of James Shahamiri

EXHIBIT D

dashboard.goswift.ly/lametro/run-times/route/212/comparison

Work

Filters

Route

212

To Hawthorne - Lennox Sta...

Date & Time Range

06/25/2026

Every day

2:00PM - 11:59PM

07/16/2026

Every day

2:00PM - 11:59PM

Display

Trip Pattern
Hawthorn / Orange
to Hawthorne / Lennox Statio...

Run-Times

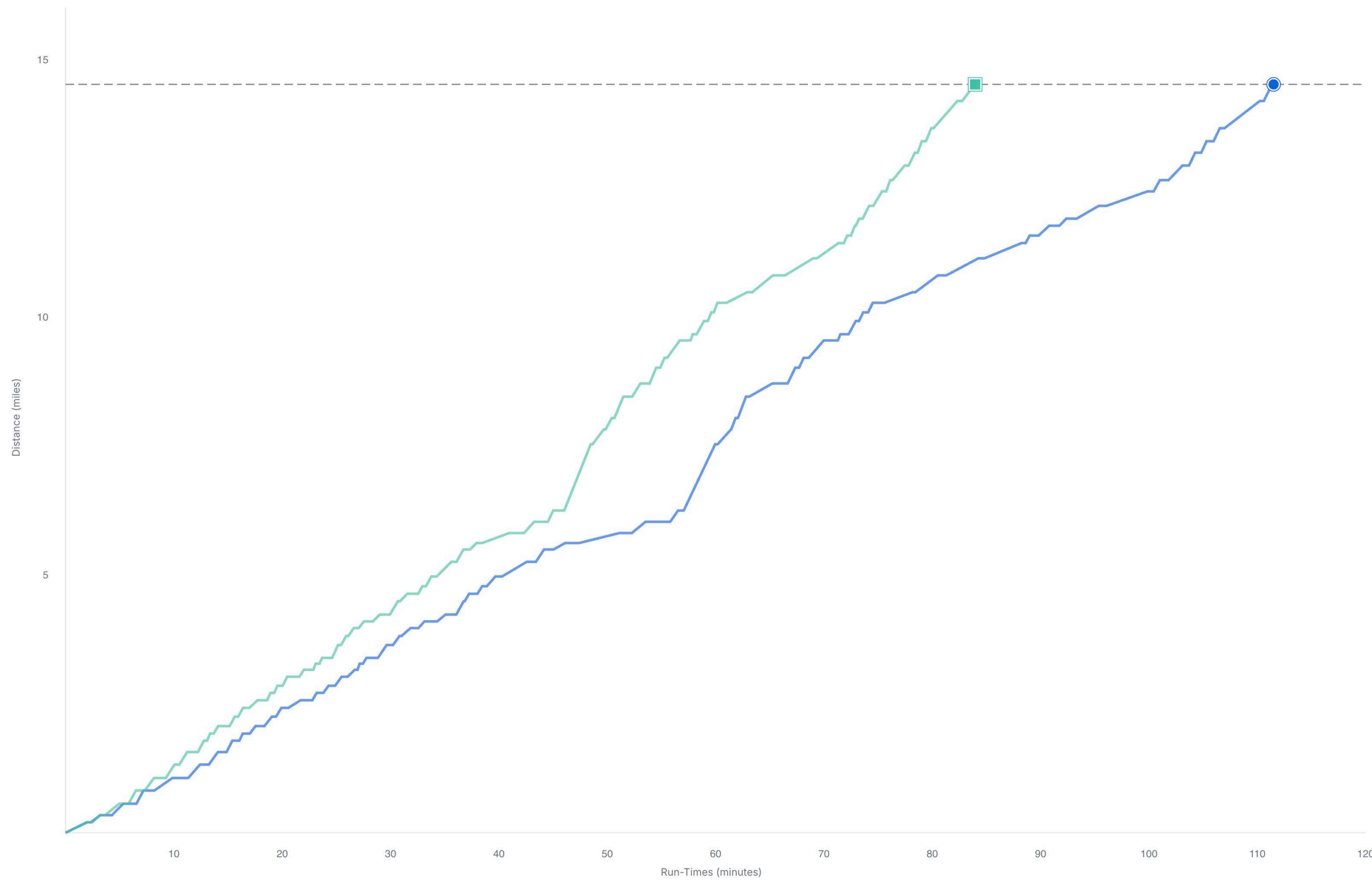
Menu

Analysis | Comparison | Suggestion

212

To Hawthorne / Lennox Station Layover

Stop: Hawthorne / Lennox Station Layover	Elapsed Run-Ti...	Avg Dwell	# Data Poi...
06/25/2026 | Every day | 2:00PM - 11:59PM	111.5 min	0 sec	10
07/16/2026 | Every day | 2:00PM - 11:59PM	84.0 min	0 sec	10



Declaration of James Shahamiri

EXHIBIT E

LA28 Announces Official Games Dates

LA28 ANNOUNCES OFFICIAL DATES FOR THE LA28 OLYMPIC AND PARALYMPIC GAMES

Mark your calendar. The LA28 Olympic and Paralympic Games will be here in six short years. The LA28 Olympic Games Opening Ceremony is set for July 14, 2028, with the Games running through July 30, 2028, and the LA28 Paralympic Games will kick off August 15, 2028, and close August 27, 2028.

“Today marks the official countdown to the LA28 Olympic and Paralympic Games,” said five-time Olympic medalist and LA28 Chief Athlete Officer Janet Evans. “The LA28 Games will be unlike any other, showcasing the best of Southern California’s exceptional stadiums and world-class culture to athletes and fans alike. This milestone makes the Games real for every athlete actively training for their LA28 dream and the fans who follow the journey.”

The LA28 Games will be Los Angeles’ third time hosting the Olympic Games (previously 1984, 1932) and the first time hosting the Paralympic Games. The LA28 Games will represent the creativity, diversity and youthful energy of the Los Angeles region.

“Los Angeles is home to the most incredible competition venues and state-of-the-art training facilities,” said Paralympic swimmer and LA28 Athletes Commission member Ileana Rodriguez. “The LA28 Games will be amazing for every athlete who comes to Los Angeles to pursue a lifelong dream. This will be our first Paralympic Games in Los Angeles and we have a major opportunity to show the world what’s possible for people with disabilities. Southern California is one of the most inclusive and diverse places anywhere and I couldn’t be more proud to help host the world’s best athletes here in 2028.”

The LA28 Games will use existing world-class stadiums and sports venues across the Los Angeles region, ensuring a sustainable and fiscally responsible event. The LA28 Games will feature more than 3,000 hours of live sport across 800 events in more than 40 sports. 15,000 athletes are expected to compete in the Olympic and Paralympic Games in Los Angeles.

“LA is an ambitious city of endless possibilities and the Games will reflect our community,” said LA28 Chairperson Casey Wasserman. “Los Angeles will provide the perfect backdrop to host the biggest cultural, sporting and entertainment event in the world."

Declaration of James Shahamiri

EXHIBIT F

What we know about the 2028 LA Olympics so far

Susan Carpenter

LOS ANGELES — As ticket draw registration began for the 2028 Summer Olympics on Wednesday, the host city of Los Angeles is ramping up preparations for what is expected to be the biggest Games ever — with more sports and more viewers than any other Olympics since they began in 1896.

Here's what we know about the Games so far, according to the LA28 organizing committee.

What You Need To Know

- **The ticket draw registration for the 2028 Summer Olympics in Los Angeles opened Wednesday**
- **LA is hosting the Games for the third time**
- **The Olympics will be held July 14-30, 2028, with more than 11,000 athletes competing in 36 sports**
- **All-new sports for the Games include flag football and squash**

The 2028 Olympic Games will be held July 14-30 in Los Angeles. The opening ceremony will take place at Los Angeles Memorial Coliseum and SoFi Stadium on July 14 at 8 p.m. EDT and the closing ceremony will take place at Memorial Coliseum July 30 at 9 p.m. EDT. The Games will kick off with the women's and men's 100-meter track competition and end with the marathon.

They will be held in Los Angeles for the third time in Olympics history. LA previously hosted the Games in 1932 and 1984.

The LA28 Ticket Draw opens Jan. 14. To begin the ticketing process, individuals must register and create a profile to be entered into the draw. Ticket registrants will have the chance to be assigned a time slot to purchase Olympic Games tickets during Drop 1, starting April 9, 2026.

Tickets will start at $28.

LA28 expects 12-15 million spectators. About 5 billion people globally are expected to watch remotely.

More than 11,200 athletes from about 200 countries will compete. The Games will be the first in Olympics history to feature more women athletes than men.

For the first time, the Games will run a 50-state torch relay, The relay is expected to begin in April 2028 and serve as "the thread that's going to bind the nation to LA and California," LA28 organizing committee CEO Reynold Hoover told a California state Senate committee last year.

There will be 36 sports total: aquatics, archery, athletics, badminton, baseball, basketball, canoe, cricket, cycling, equestrian, fencing, flag football, soccer, golf, gymnastics, handball, hockey, judo, lacrosse, modern pentathlon, rowing, rugby, sailing, shooting, skateboarding, softball, sport climbing, squash, surfing, table tennis, taekwondo, tennis, triathlon, volleyball, weightlifting and wrestling.

All-new sports for 2028 include flag football and squash, with separate medals for women's and men's teams. The 2028 Olympics also marks the debut of six new mixed-gender team events, including a compound bow event in archery, a 4x100-meter mixed relay race, a mixed team event in artistic gymnastics, mixed double sculls in rowing, mixed team golf and mixed team table tennis. Cricket will join the lineup for the first time in more than a century. Lacrosse is also returning after last appearing in the London 1908 Olympics and as a demonstration sport in 1928, 1932 and 1948. Baseball and softball are returning after last appearing in the Tokyo 2020 Games.

The first medal will be awarded for the triathlon in Venice Beach on the first day of competition. The 2028 Games will have 22 more medal events than the Paris Games in 2024.

For the first time in Olympics history, no new permanent infrastructure is being built to host the Games. There are 49 competition venues in 18 zones throughout the LA area including SoFi Stadium, Dodger Stadium, Exposition Park Stadium, Universal Studios, Pomona Fairgrounds, Honda Center, the Intuit Dome, the LA Convention Center, the Long Beach Aquatics Center, the LA Memorial Coliseum, the Port of Los Angeles, Santa Anita Park, the Rose Bowl Stadium, the Rose Bowl Aquatics Center and Venice Beach. Oklahoma City will host the softball and canoe competitions.

The village will be housed at the University of California-Los Angeles to use its residence, dining, medical and training facilities.

LA28 has set out three strategic objectives for the Games: radical reuse, resilience and natural resource stewardship. In addition to using existing venues instead of constructing new buildings, it's working to reduce waste and minimize carbon emissions by using clean energy and zero-emissions transportation systems.

It is also working with the competition venues on energy retrofits to optimize efficiency. The Athletes Village at the University of California, Los Angeles, for example, has committed to 100% clean electricity and diverting 90% of its solid waste from landfills. The campus has already stopped selling and distributing single-use plastic bottles and foodware at its dining facilities.

LA28 is targeting 100% reusable, recyclable or compostable concessions beverage containers. All of the venues will have active food waste composting programs, food donation programs and free water refill stations.

With an average July temperature in LA of 83 degrees, multiple city and county agencies are working together on a ShadeLA initiative to add tree canopy, shade structures and improved shelter infrastructure in high-traffic public spaces and transit stops to protect residents and visitors from extreme heat, according to the public transportation agency Metro. Metro will also deploy temporary hydration units along some of its routes, including transit transfer stations and pedestrian corridors that serve the Games' venues.

LA Mayor Karen Bass has billed the 2028 Games as "transit first." For the past several years, the county's public transportation system has undergone a massive build-out to improve the speed, frequency and reliability of buses and trains in anticipation of the Games. Metro expects 1 million more boardings per day during the Games and will add dedicated bus routes to connect major rail hubs, park-and-ride sites and Olympic venues that aren't directly served by existing rail lines.

Los Angeles Clean Tech Incubator President Matt Petersen told Spectrum News 700 buses are expected to be needed beyond what the area's public transportation systems have in operation. LA

Unified School District electric buses will also be used to transport visitors, spectators and workers. U.S. Transportation Secretary Sean Duffy said in December he is asking cities to provide buses for the LA Games.

LAX has been undergoing a $30 billion capital improvement program for the past several years, including upgraded and expanded terminals with more modern architecture and LA themes centered around the city's history, culture, sports and seasons, according to an airport spokesperson.

LAX plans to begin operating an electric train called the SkyLink Automated People Mover to shuttle people between the airport's terminals and public transportation, rideshare pickups and a newly updated rental car facility. The People Mover will replace an outgoing bus system with service that runs every two minutes instead of every 10.

Around the time the Automated People Mover begins service, LAX plans to open a single, off-site hub for all the rental car companies that operate at the airport. It is expected to be the largest rental car facility in the nation, with room for 18,000 vehicles.

The U.S. Secret Service has designated the 2028 Olympic Games a national special security event. The designation helps coordinate local, state and federal law enforcement agencies to help with road closures, safety screenings and other security measures. To help with security on its trains and buses, Metro has about 30,000 cameras installed throughout its rail system, as well as a faregate lock system to prevent forced entries. It will also establish a new Department of Public Safety that's expected to be up and running by the time of the Games and will be fully staffed by 2029 with 600 sworn law enforcement officers, as well as licensed social workers and mental health clinicians.

A December 2025 report from the Southern California Association of Governments estimates Southern California will see $13 billion to $17 billion in economic activity. The Games are expected to generate 36,000 construction jobs, 20,000 administrative and support positions, and thousands of additional jobs in technical services, food service and performing arts.

Editor's Note: A previous version of this story incorrectly said the rental car facility at Los Angeles International Airport will be the largest in the world when it opens. It will be the largest in the nation. (Jan. 14, 2025)

Declaration of James Shahamiri

EXHIBIT G

LA28 OLYMPIC GAMES

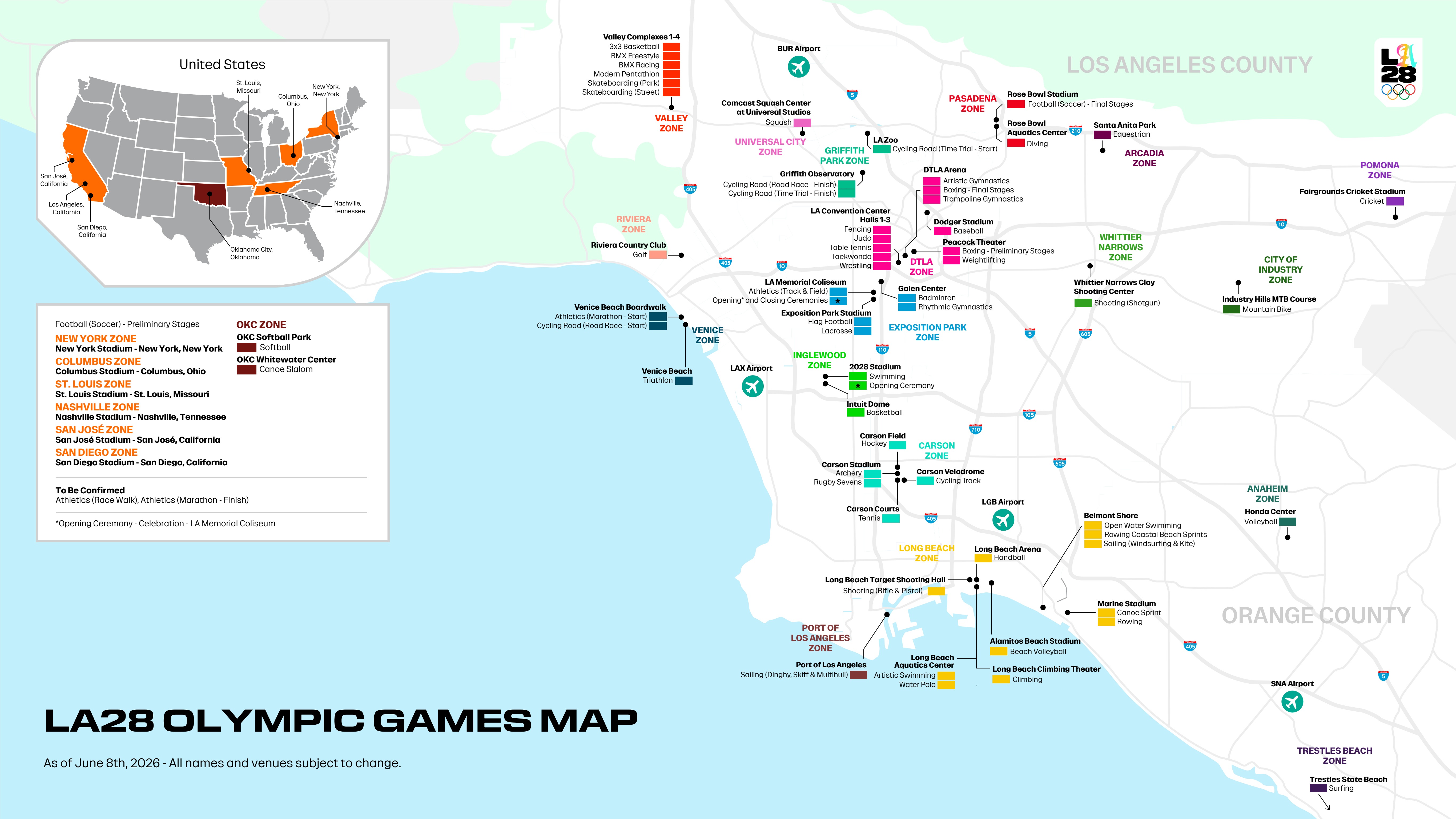
DAILY COMPETITION SCHEDULE

SPORT	VENUE	-4 MON JULY 10	-3 TUE JULY 11	-2 WED JULY 12	-1 THU JULY 13	0 FRI JULY 14	1 SAT JULY 15	2 SUN JULY 16	3 MON JULY 17	4 TUE JULY 18	5 WED JULY 19	6 THU JULY 20	7 FRI JULY 21	8 SAT JULY 22	9 SUN JULY 23	10 MON JULY 24	11 TUE JULY 25	12 WED JULY 26	13 THU JULY 27	14 FRI JULY 28	15 SAT JULY 29	16 SUN JULY 30
3X3 BASKETBALL	Valley Complex 3							⚫	⚫	⚫	⚫	⚫	⚫	🔴								
ARCHERY	Carson Stadium												🔴	⚫	⚫	🔴	🔴	🔴	🔴	🔴		
ARTISTIC GYMNASTICS	DTLA Arena						⚫	⚫	🔴	🔴	🔴	🔴		🔴	🔴	🔴	🔴					
ARTISTIC SWIMMING	Long Beach Aquatics Center																⚫	🔴	⚫	⚫	🔴	
ATHLETICS	LA Memorial Coliseum (Track & Field) / Venice Beach Boardwalk (Marathon - Start)						🔴	🔴	🔴	🔴	🔴	🔴	🔴	🔴	🔴	🔴			🔴		🔴	🔴
BADMINTON	Galen Center						⚫	⚫	⚫	⚫	⚫	⚫	🔴	🔴	🔴	🔴						
BASEBALL	Dodger Stadium				⚫		⚫	⚫	⚫	⚫	🔴											
BASKETBALL	Intuit Dome			⚫	⚫		⚫	⚫	⚫	⚫	⚫	⚫	⚫	⚫	⚫	⚫	⚫	⚫	⚫	⚫	🔴	🔴
BEACH VOLLEYBALL	Alamitos Beach Stadium						⚫	⚫	⚫	⚫	⚫	⚫	⚫	⚫	⚫	⚫	⚫	⚫	⚫	🔴	🔴	
BMX FREESTYLE	Valley Complex 1																			⚫	🔴	
BMX RACING	Valley Complex 4						⚫	🔴														
BOXING	Peacock Theater (Preliminary Stages) / DTLA Arena (Final Stages)						⚫	⚫	⚫	⚫	⚫	⚫	⚫	⚫	⚫				🔴	🔴	🔴	🔴
CANOE SLALOM	OKC Whitewater Center					⚫	🔴	🔴	⚫	🔴	🔴	⚫	⚫	🔴								
CANOE SPRINT	Marine Stadium																⚫	🔴	⚫	🔴	🔴	
CLIMBING	Long Beach Climbing Theater															⚫	⚫	🔴	🔴	🔴	🔴	
CRICKET	Fairgrounds Cricket Stadium			⚫	⚫		⚫	⚫	⚫	⚫	⚫	🔴		⚫	⚫	⚫	⚫	⚫	⚫	⚫	🔴	
CYCLING ROAD	Venice Beach Boardwalk & Griffith Observatory (Road Race - Start & Finish) / LA Zoo & Griffith Observatory (Time Trial - Start & Finish)										🔴			🔴	🔴							
CYCLING TRACK	Carson Velodrome																🔴	🔴	🔴	🔴	🔴	🔴
DIVING	Rose Bowl Aquatics Center							⚫	🔴	⚫	🔴	⚫	🔴	🔴			🔴	🔴	🔴	🔴		
EQUESTRIAN	Santa Anita Park						⚫	⚫	⚫	🔴		⚫	⚫	🔴		🔴	⚫	🔴		⚫	🔴	
FENCING	LA Convention Center Hall 1						🔴	🔴	🔴	🔴	🔴	🔴	🔴	🔴	🔴							
FLAG FOOTBALL	Exposition Park Stadium						⚫	⚫	⚫	⚫	⚫	⚫	🔴	🔴								
FOOTBALL (SOCCER)	New York, Columbus, Nashville, St. Louis, San José and San Diego Stadiums (Group & Knockout Stages) / Rose Bowl Stadium (Final Stages)	⚫	⚫		⚫	⚫		⚫	⚫			⚫	⚫			⚫	⚫		⚫	🔴	🔴	
GOLF	Riviera Country Club										⚫	⚫	⚫	🔴	⚫	🔴		⚫	⚫	⚫	🔴	
HANDBALL	Long Beach Arena			⚫	⚫		⚫	⚫	⚫	⚫	⚫	⚫	⚫	⚫	⚫	⚫	⚫	⚫	🔴	🔴		
HOCKEY	Carson Field			⚫	⚫		⚫	⚫	⚫	⚫	⚫	⚫	⚫	⚫	⚫	⚫	⚫	⚫	⚫	🔴	🔴	
JUDO	LA Convention Center Hall 2						🔴	🔴	🔴	🔴	🔴	🔴	🔴	🔴								
LACROSSE	Exposition Park Stadium															⚫	⚫	⚫	⚫	⚫	🔴	
MODERN PENTATHLON	Valley Complex 2						⚫	⚫	🔴	🔴												
MOUNTAIN BIKE	Industry Hills MTB Course								🔴	🔴												
OPEN WATER SWIMMING	Belmont Shore								🔴	🔴												
RHYTHMIC GYMNASTICS	Galen Center																		⚫	🔴	🔴	
ROWING	Marine Stadium						⚫	⚫	🔴	🔴	🔴	🔴	🔴	🔴								
ROWING COASTAL BEACH SPRINTS	Belmont Shore															🔴	🔴					
RUGBY SEVENS	Carson Stadium			⚫	⚫		🔴	⚫	⚫	🔴												
SAILING	Belmont Shore (Windsurfing & Kite) / Port of Los Angeles (Dinghy, Skiff & Multihull)							⚫	⚫	⚫	🔴	🔴			⚫	⚫	⚫	🔴	🔴	🔴		
SHOOTING	Long Beach Target Shooting Hall (Rifle & Pistol) / Whittier Narrows Clay Shooting Center (Shotgun)						🔴	🔴	🔴	🔴	🔴	🔴	⚫	🔴	🔴	🔴						
SKATEBOARDING	Valley Complex 1 (Street) / Valley Complex 2 (Park)									⚫	🔴	🔴					⚫	🔴	🔴			
SOFTBALL	OKC Softball Park														⚫	⚫	⚫	⚫	⚫	⚫	🔴	
SQUASH	Comcast Squash Center at Universal Studios						⚫	⚫	⚫	⚫	⚫	⚫	⚫	⚫	🔴	🔴						
SURFING	Trestles State Beach						⚫	⚫	⚫	🔴	🩵	🩵	🩵	🩵	🩵							
SWIMMING	2028 Stadium													🔴	🔴	🔴	🔴	🔴	🔴	🔴	🔴	🔴
TABLE TENNIS	LA Convention Center Hall 3						⚫	⚫	🔴	🔴	🔴	⚫	⚫	🔴	🔴	⚫	⚫	⚫	⚫	⚫	🔴	
TAEKWONDO	LA Convention Center Hall 1																	🔴	🔴	🔴	🔴	
TENNIS	Carson Courts										⚫	🔴	⚫	⚫	⚫	⚫	⚫	⚫	🔴	🔴		
TRAMPOLINE GYMNASTICS	DTLA Arena												🔴									
TRIATHLON	Venice Beach						🔴	🔴				🔴										
VOLLEYBALL	Honda Center						⚫	⚫	⚫	⚫	⚫	⚫	⚫	⚫	⚫	⚫	⚫	⚫	⚫	⚫	🔴	🔴
WATER POLO	Long Beach Aquatics Center			⚫	⚫		⚫	⚫	⚫	⚫	⚫	⚫	⚫	🔴	🔴							
WEIGHTLIFTING	Peacock Theater																🔴	🔴	🔴	🔴	🔴	
WRESTLING	LA Convention Center Hall 2															⚫	🔴	🔴	🔴	🔴	🔴	🔴
CEREMONIES	2028 Stadium / LA Memorial Coliseum					🔵																🔵

🔴 MEDAL EVENT DAY ⚫ EVENT DAY 🩵 CONTINGENCY DAYS 🔵 CEREMONIES

Declaration of James Shahamiri

EXHIBIT H


LA28 OLYMPIC GAMES MAP
As of June 8th, 2026 - All names and venues subject to change.
LOS ANGELES COUNTY
ORANGE COUNTY
United States
St. Louis, Missouri
New York, New York
Columbus, Ohio
San José, California
Los Angeles, California
San Diego, California
Oklahoma City, Oklahoma
Nashville, Tennessee
Football (Soccer) - Preliminary Stages
NEW YORK ZONE
New York Stadium - New York, New York
COLUMBUS ZONE
Columbus Stadium - Columbus, Ohio
ST. LOUIS ZONE
St. Louis Stadium - St. Louis, Missouri
NASHVILLE ZONE
Nashville Stadium - Nashville, Tennessee
SAN JOSÉ ZONE
San José Stadium - San José, California
SAN DIEGO ZONE
San Diego Stadium - San Diego, California
OKC ZONE
OKC Softball Park
Softball
OKC Whitewater Center
Canoe Slalom
To Be Confirmed
Athletics (Race Walk), Athletics (Marathon - Finish)
*Opening Ceremony - Celebration - LA Memorial Coliseum
Valley Complexes 1-4
3x3 Basketball
BMX Freestyle
BMX Racing
Modern Pentathlon
Skateboarding (Park)
Skateboarding (Street)
VALLEY ZONE
BUR Airport
Comcast Squash Center at Universal Studios
Squash
UNIVERSAL CITY ZONE
GRIFFITH PARK ZONE
LA Zoo
Cycling Road (Time Trial - Start)
Griffith Observatory
Cycling Road (Road Race - Finish)
Cycling Road (Time Trial - Finish)
PASADENA ZONE
Rose Bowl Stadium
Football (Soccer) - Final Stages
Rose Bowl Aquatics Center
Diving
Santa Anita Park
Equestrian
ARCADIA ZONE
POMONA ZONE
Fairgrounds Cricket Stadium
Cricket
DTLA Arena
Artistic Gymnastics
Boxing - Final Stages
Trampoline Gymnastics
LA Convention Center Halls 1-3
Fencing
Judo
Table Tennis
Taekwondo
Wrestling
Dodger Stadium
Baseball
Peacock Theater
Boxing - Preliminary Stages
Weightlifting
DTLA ZONE
RIVIERA ZONE
Riviera Country Club
Golf
WHITTIER NARROWS ZONE
Whittier Narrows Clay Shooting Center
Shooting (Shotgun)
CITY OF INDUSTRY ZONE
Industry Hills MTB Course
Mountain Bike
LA Memorial Coliseum
Athletics (Track & Field)
Opening* and Closing Ceremonies
Galen Center
Badminton
Rhythmic Gymnastics
Exposition Park Stadium
Flag Football
Lacrosse
EXPOSITION PARK ZONE
Venice Beach Boardwalk
Athletics (Marathon - Start)
Cycling Road (Road Race - Start)
VENICE ZONE
Venice Beach
Triathlon
LAX Airport
INGLEWOOD ZONE
2028 Stadium
Swimming
Opening Ceremony
Intuit Dome
Basketball
Carson Field
Hockey
CARSON ZONE
Carson Stadium
Archery
Rugby Sevens
Carson Velodrome
Cycling Track
Carson Courts
Tennis
LGB Airport
ANAHEIM ZONE
Honda Center
Volleyball
Belmont Shore
Open Water Swimming
Rowing Coastal Beach Sprints
Sailing (Windsurfing & Kite)
LONG BEACH ZONE
Long Beach Arena
Handball
Long Beach Target Shooting Hall
Shooting (Rifle & Pistol)
Marine Stadium
Canoe Sprint
Rowing
PORT OF LOS ANGELES ZONE
Port of Los Angeles
Sailing (Dinghy, Skiff & Multihull)
Long Beach Aquatics Center
Artistic Swimming
Water Polo
Alamitos Beach Stadium
Beach Volleyball
Long Beach Climbing Theater
Climbing
SNA Airport
TRESTLES BEACH ZONE
Trestles State Beach
Surfing
5
210
405
10
110
605
105
710

Declaration of James Shahamiri

EXHIBIT I

Early Project Delivery

Metro has a plan to make it easier to get around LA. We're transforming LA with $120 billion of transportation improvements over 40 years and, through the Early Project Delivery Strategy, we have identified transit projects that can be delivered faster than scheduled.

Content

How are projects identified for Early Project Delivery?

The Metro Board of Directors approved the Early Project Delivery Strategy in November 2017 to help determine which transit projects could be completed faster than scheduled, without delaying other projects. The criteria used to identify these projects include funding, process, partnerships and innovations. The Board reviews and makes decisions about any opportunities to accelerate projects.

What is Twenty-eight by '28?

Related to the Early Project Delivery Strategy, the Metro Board of Directors has also adopted the Twenty-eight by '28 Initiative for projects that could be completed in time for the 2028 Olympic and Paralympic Games. This initiative identifies projects already planned to be delivered by 2028, as well as projects with aspirational schedules that the board has highlighted, but not committed, for early project delivery.

The adopted policy for Early Project Delivery applies prior to the board making any binding decision to accelerate a project earlier than scheduled in the Measure M Expenditure Plan. Not all Measure M investments scheduled for completion by 2028 are included in this list and inclusion on the list does not supersede any commitments made in the Measure M ordinance.

Additional Resources

Early Project Delivery Presentation

Early Project Delivery Board Report

Attachment A – Adopted Metro Board Policy

Attachment B – About Metro's Proposed Policy

Contact Us

323.466.3876
x2 *Español (Spanish)*
x3 中文 *(Chinese)*
x4 한국어 *(Korean)*
x5 Tiếng Việt *(Vietnamese)*
x6 日本語 *(Japanese)*
x7 русский *(Russian)*
x8 Հայերէն *(Armenian)*

Declaration of James Shahamiri

EXHIBIT J

FIFA WORLD CUP IN LA VS **LA28 OLYMPIC GAMES**

8X	27X	105X	5X
THE DAILY CROWD 550,000 VS 70,400 TICKETS	THE SPORTS 27 VS 1	THE MATCHES / SESSIONS 843 VS 8	THE BUSES REQUIRED 1,700 VS 333

THE 2028 OLYMPIC GAMES ARE AN ORDER OF MAGNITUDE LARGER THAN THE FIFA WORLD CUP