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**Public Works – Engineering Services Division**

Date: July 10, 2024

To: Bill Emlen, CAO

From: James Bezek, Director of Resource Management  
Matt Tuggle, Engineering Manager *MWZ*

Subject: Estimates for Transportation Impacts, Costs, and Revenues for the Proposed East Solano Homes, Jobs, and Clean Energy Initiative

On June 25, 2024, the Board of Supervisors requested that the Solano County departments prepare a report on the East Solano Homes, Jobs, and Clean Energy Initiative (aka “California Forever”). Under the Board’s request, the Department of Resource Management would be required to prepare a report within 30 days on the impacts of the initiative measure as set forth in EC section 9111(a), including any or all of the following:

- 1) Its fiscal impact.
- 2) Its effect on the internal consistency of the county’s general and specific plans, including the housing element, the consistency between planning and zoning, and the limitations on county actions under Section 65008 of the Government Code and Chapters 4.2 (commencing with Section 65913) and 4.3 (commencing with section 65915) of Division 1 of Title 7 of the Government Code.
- 3) Its effect on the use of land, the impact on the availability and location of housing, and the ability of the county to meet its regional housing needs.
- 4) Its impact on funding for infrastructure of all types, including, but not limited to, transportation, schools, parks, and open space. The report may also discuss whether the measure would be likely to result in increased infrastructure costs or savings, including the costs of infrastructure maintenance, to current residents and businesses.
- 5) Its impact on the community’s ability to attract and retain business and employment.
- 6) Its impact on the uses of vacant parcels of land.
- 7) Its impact on agricultural lands, open space, traffic congestion, existing business districts, and developed areas designated for revitalization.

This memo, analysis, and estimates focuses on the impacts related to transportation, transportation congestion, and the associated fiscal impacts.

In anticipation of the Board’s request, the Department of Resource Management (DRM) solicited our existing contracted traffic consultant, TJKM, for professional traffic engineering services to

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fulfill the Board's report request. DRM worked with TJKM to generate a scope of engineering and technical tasks that would generate estimates for traffic impacts from the new proposed development to areas outside the development under certain scenarios. The tasks for TJKM included the following:

- 1) Data collection and review of existing information, models, and reports.
- 2) Travel demand forecasting using the Solano Napa Activity Based Model (SNABM)
- 3) Traffic impact assessment to major thoroughfares within Solano County.
- 4) Identify impacted roads, intersections, and bridges and provide assessments for mitigating improvements.
- 5) Assess the Vehicles Miles Travelled (VMT) that would be generated from the development scenarios.

The Solano Napa Activity Based Model is the established computer-generated traffic model for regional travel demand and traffic forecasting that is currently being used by the Solano Transportation Authority, Metropolitan Transportation Commission (for within Solano County), and our local cities. The SNABM has already been used by local and regional agencies for the last several years to analyze existing traffic conditions as well as year 2040 traffic forecasts. Previous discussions with representatives of California Forever indicated that they also anticipated utilizing the SNABM for their transportation analyses. The model scenarios and conditions that were used to review and identify impacts to the local and regional transportation network include the following:

- 1) Existing conditions (no-build).
- 2) Forecast year 2040 (no-build).
- 3) Construction traffic estimates to/from California Forever build.
- 4) Phase 1: 50,000 population with California Forever build.
  - a. Phase 1 is theoretically capped until there is 15,000 "good paying jobs" added per the Initiative before development can continue.
  - b. Construction traffic impact assumes 10 years to hit Phase 1 threshold of 50,000 population.
- 5) Phase 2: 400,000 population at full California Forever build out.

#### Traffic Impact Estimates:

Using these scenarios, TJKM generated two technical memorandum reports which summarized their findings. TJKM's first memo: *Draft Traffic Analysis Methodology and Summary of Preliminary Results for California Forever Development Project from TJKM* ("Tech Memo #1", included for reference) analyzed the traffic conditions under scenarios 1-4 above, capping at the 50,000 population/15,000 jobs trip generation.

The analysis included existing levels of service along the major routes, mostly roadways outside of the development that serve the region. Level of service (LOS) is used to analyze roadways and intersections, ranking from A at the highest to F at the lowest, by categorizing daily traffic flows and assigning quality levels of traffic based on performance measure like vehicle speed, density, congestion, etc. Traditionally, roadway conditions are acceptable with lower levels of congestion if they score a C or higher on non-urban streets. Rankings of D, E, or F denote moderate to severe congestion and travel delay.

Analysis of the Phase 1 scenario shows that the development is likely to create impacts which lower LOS down to “F” or create significant traffic congestion events on State Highway 12 in and around Rio Vista, State Highway 84, State Highway 113 within the City of Dixon, on the Rio Vista Bridge, as well Interstate 680 near the Interstate 80 junction. The attached heat maps in Tech Memo #1 show the anticipated speed of the roadways after development and include many sections operating below 35 miles per hour.

The Vehicle Miles Travelled (VMT) analysis and estimates by SNABM indicate that the Phase 1 scenario will annually generate 341 million additional residential-use miles travelled and 152 million additional employment-use miles travelled.

TJKM’s second analysis for the Phase 2 build out scenario (400,000 population): *Draft Traffic Analysis Methodology and Summary of Preliminary Results for California Forever Development Project* from TJKM (“Tech Memo #2”, included for reference) shows that the development is likely to create impacts which lower LOS down to “F” or create significant traffic congestion events on most of the connecting regional routes and major intersections:

- 1) Interstate 680 and 80;
- 2) State Highway 12, 84, 113, and 160; and
- 3) Along the local connecting roads, such as Canright Road, Creed Road, Flannery Road, Fry Road, Goose Haven Road, Hawkins Road, Lambie Road, McClosky Road, McCormack Road, McCrory Road, Montezuma Hills Road, Peabody Road, Robinson Road, and Shiloh Road, and others in and around the cities of Dixon, Fairfield, Rio Vista, and Vacaville.

The attached heat maps in Tech Memo #2 show the anticipated speed of the roadways after development and include many sections operating below 35 miles per hour.

The Vehicle Miles Travelled (VMT) analysis and estimates by SNABM indicate that the Phase 2 scenario will annually generate 2.3 billion additional residential-use miles travelled and 438 million additional employment-use miles travelled.

#### Improvement Costs and Fiscal Impacts:

The impacts analysis above assumes that the roadways and bridges within the analysis area would not undergo any capacity increases through the various scenarios. This assumption is used to determine the impact that the development would have on existing conditions and future forecast conditions without the development (no-build). With the above identified routes now understood to be impacted by the development, capacity enhancing improvements would be necessary to mitigate the potential for increases in congestion and decreases in traffic performance. DRM and TJKM performed a summary analysis of the variety of improvements that would be necessary to mitigate for the traffic impacts that would be anticipated. The Solano County Road Improvement Standards require that development improve impacted substandard roads up to the design standard, which includes at least 4-lanes for roads that will have 10,000 or more vehicle trips per day. Impact mitigation is a normal part of the development process where negative impacts are typically offset by various improvements. The Mitigation Cost Estimates are attached and include a variety of improvements that include:

- 1) Connecting State Highways sections improved to four or more lanes;

- 2) Rio Vista Bridge replacement (likely a cost share given pre-existing conditions);
- 3) Local and other minor State Highway bridges upgraded to four or more lanes;
- 4) Connecting and impacted local roadways and intersections improved to standard two to four lanes;
- 5) Additional public right of way necessary for accessory improvements for environmental mitigation, storm water/drainage, lighting/landscaping, and road realignments.
- 6) Damage to public roadways from all the truck hauling necessary to bring in the building materials.

The cost estimates associated with these improvements will vary depending on the scope of the development and timeline of delivery. Phase 1 timeline for build out is estimated at approximately 10 years, but Phase 2 is unknown at this time. Cost escalation was estimated at 3% per year in the supplemental reports, but the demand from the development may inflate construction contract and material prices for the region given the magnitude of development. The preliminary estimate for the transportation improvements costs outside of the development area are approximately \$2.2+ billion for Phase 1 and \$17+ billion for Phase 2 (in present day values) as shown in the Summary for the Draft Mitigation Cost Estimates. The alternative to not mitigate for these impacts would result in increased traffic congestion, lower traveling speeds, decreased roadway safety, increases in significant injury and fatal accidents, and increased maintenance costs for roads and bridges.

The County's lead consultant for the Board's report, Stantec, generated a development Cost Estimate for construction of all new internal roads and appurtenant infrastructure within the development area. This estimate shows that the costs Phase 2 build out to be up to \$9 billion, which would be in addition to the transportation mitigation costs outside of the development area. Development must typically construct and/or fund all of the public infrastructure necessary for the development. Funding for the new roads from a large development are typically generated by fees levied on the new construction and through a development agreement between the developer(s) and the lead agency. The fees necessary to generate enough revenue for the variety of public improvement costs would be very significant.

#### Existing Revenue from Gas Tax and Fees:

Solano County has limited revenue options for transportation maintenance and improvements. The unincorporated County does not have a transportation sales tax and relies solely on the State and Federal Gas Tax to fund existing road maintenance of the 576 miles of unincorporated roads and bridges. The County's Road Fund commits about \$1-\$5 million annually to road and bridge improvements, outside of basic road maintenance funding. The County's Gas Tax revenue at build out would likely increase \$2-\$5 million per year due to increases in public roadway mileage, population, and registered vehicles.

Caltrans has committed to funding some larger Interstate and State Highway rehabilitation projects in Solano County over the next 10 years; however, there is no commitment for capacity improvements near the California Forever development. Therefore, capacity improvement funding through Caltrans cannot be anticipated at this time.

The Regional Transportation Impact Fee (RTIF), part of the Solano County Public Facilities Fee, provides some funding for roadway improvements, typically \$3-\$5 million per year depending on regional building permit issuance. The RTIF funds are collected on residential and commercial development and would generate approximately \$41 million for Phase 1 buildout and \$322 million

for Phase 2 full buildout under current fee amounts. A fee generation summary is attached for reference.

Summary:

Approval of the proposed Initiative would potentially result in a significant number of transportation and traffic congestion related impacts that are anticipated to need mitigating improvements. The new public roadway infrastructure and mitigating improvements will likely cost several billion to tens of billions of dollars to build depending on building scope and timeline. The RTIF revenues and new Gas Tax revenues generated under existing fee and tax structures would likely generate tens to hundreds of millions in new revenue to offset the transportation improvement costs and would only cover a fraction of the necessary improvements.