

Memo

To: North Tahoe Public Utility District
 From: Dixon Resources Unlimited
 Date: January 14, 2025
 Re: Operational Needs Assessment Memorandum

This Operational Needs Assessment Memorandum (memo) outlines the existing conditions and opportunities for managing paid parking at two sites owned and operated by the North Tahoe Public Utility District (NTPUD): North Tahoe Regional Park (NTRP) and Tahoe Vista Recreation Area (TVRA). Based on background documentation and an in-person site visit by Dixon Resources Unlimited (DIXON), this memo presents initial findings and recommendations on paid parking policies, enforcement, technology, and signage, along with site-specific strategies

General Paid Parking Strategies

NTPUD has paid parking implemented at both NTRP and TVRA; however, compliance is typically low as there is limited parking enforcement and users are trusted to pay for parking using iron rangers when booths are not staffed. There are opportunities to modernize NTPUD’s paid parking approach by implementing technology that offers users flexibility and convenience, encouraging compliance through education and enforcement, and improving the user experience through wayfinding and signage. This section identifies general strategies to support a consistent, effective parking management approach that can be applied to both locations.

Program & Policy

- CFD Resident Benefit:** Residents within the NTPUD Community Facilities District (CFD) are currently eligible for free parking and receive two parking stickers per household. With a switch to a Pay-by-Plate system, CFD residents would provide the license plate numbers of vehicles registered to their addresses to NTPUD, and NTPUD would add these license plates to a whitelist on the Citation Management System (CMS) for free parking. To avoid confusion over who is eligible for free parking, NTPUD could use the wording “NTPUD CFD Contributor” instead of “NTPUD Resident” to clarify eligibility.
- Annual Rate Assessment:** DIXON recommends NTPUD conduct an annual rate assessment to evaluate whether a rate update is appropriate. The assessment should consider any changes made to paid parking rates of comparable recreational sites in the Tahoe Basin and analyze the season’s parking utilization insights. For example, high occupancy levels exceeding the industry benchmark of 85% could suggest a rate

Figure 1. Current Fee Envelope



increase. This ensures parking fees are aligned regionally and supports rising operational costs. Current parking fees are outlined in Table 1.

Table 1. Current NTPUD Parking Fees

Single Use Fee Type	Price	Benefits/Pass Type	Price ¹
NTRP Parking Fee	\$5	NTPUD Residents	\$0
TVRA Parking Fee	\$10	Additional Vehicle (Residents)	\$110
Winter Peak Parking (weekends and holidays, December to March)	\$20	Park Supporter Parking Pass (Non-residents)	\$220

Technology

The approaches and strategies indicated below can be supported by three types of technologies: paid parking technology that enables users to pay for parking; License Plate Recognition (LPR) technology to support enforcement; and the use of Placer County’s existing CMS to support enforcement, manage citations, and enable free parking for NTPUD CFD residents. All technologies are to be integrated and function collectively to support the strategies illustrated in this memo.

- Pay-by-Plate Approach:** Currently, visitors primarily pay by placing cash in a fee envelope, writing down their license number, depositing the envelope in an iron ranger, and displaying a receipt on their dash—a system with low compliance, especially when regulars know enforcement is lax. The exceptions are when the NTRP booth is staffed to receive payments on peak days, and at TVRA for boat launch users who pay at the booth. Switching to a Pay-by-Plate system, which virtually links a valid session to a license plate, would enable credit card payments, simplify administration and enforcement, and enhance the user experience. Recommended mobile payment apps and Text-to-Pay options also use Pay-by-Plate by default.

How does Pay-by-Plate Work with LPR and Enforcement?

When all active parking sessions are associated with a license plate, this enables “plate-based enforcement.” Plate-based enforcement leverages LPR technology, which involves cameras mounted on patrol vehicles or fixed poles that read and record the license plates in their view. LPR technology is synchronized in real time with parking technology systems, such as paid parking, citation management, and permit management systems. When an LPR camera captures a plate, the system compares license plate numbers across other systems to recognize whether the vehicle has a valid parking session and alert enforcement personnel if a citation should be issued. LPR cameras also have “digital chalking” capabilities to enforce time limits. Plate-based enforcement is much more efficient than manual forms of enforcement, e.g., chalking tires or “Pay and Display” methods.

LPR cameras can also benefit law enforcement agencies with the ability to spot hotlist and scofflaw vehicles whose license plate numbers have been added to the system.

¹ All benefits/passes are currently applicable for a two-year period. The current period runs from January 2024 to December 2025.

- **Payment Methods:** To maximize accessibility and convenience, DIXON recommends NTPUD install parking kiosks that accept both credit cards and bills.² Additionally, offering mobile app and Text-to-Pay options would further enhance payment flexibility for users, who are increasingly accustomed to paying via mobile methods.

What are the Industry-Standard Parking Payment Technologies?

Users typically pay for parking through the following technologies:

- **Pay stations or parking meters:** A user pays for parking at a physical device that can accept credit card, coin, and/or bill. Traditional parking meters are installed at each individual space, while pay stations each serve multiple spaces. The ratio of pay stations to spaces can vary based on the application. Pay stations are becoming increasingly popular to minimize the infrastructure and maintenance needed.
 - **Mobile payment app:** A user opens (or downloads and opens) a mobile app to input details (e.g., parking zone, duration, license plate) and credit card information to start a paid parking session. The user can save vehicle and credit card information by creating an account with the app. There are several common mobile payment app vendors and signage would state which one(s) the agency accepts.
 - **Text-to-Pay:** A user scans a QR code or sends a text message with the paid parking location to a provided number. Both options would lead to a mobile webpage, where the user inputs details (e.g., duration, license plate) and credit card information to start a paid parking session. Payment confirmation would be visible from that mobile webpage or be sent via text to the user.
- **Managing Passes:** Converting to a Pay-by-Plate model allows users to purchase and activate passes at any time with ease. Passes are set to be valid for a fixed two-year period (currently January 2024 to December 2025) to reduce administrative work managing the program. Pay-by-Plate significantly reduces administrative time and enables passes to be activated for an exact duration regardless of start date, allowing users to leverage the full value of the pass. This gives NTPUD the flexibility to set annual rates instead of biennial rates, aligning with their annual budgeting period.
 - **Paid Parking Technology:** DIXON recommends NTPUD select a paid parking vendor that offers:
 - At least one (or ideally both) mobile app and Text-to-Pay options.
 - Ability to add license plates via a validation or permit system to execute the CFD resident benefit and support the Tahoe Treetop Adventure Parks customers.
 - Parking kiosks with solar power and hardwired communication functions, pending further evaluation.³

² In the 2024-2024 winter peak parking pilot, cash payments accounted for 69% of sales while credit card payments accounted for 31%.

³ Further evaluation of currently available technology and other parking kiosk configurations will be assessed by DIXON as a step following this operational assessment.

- **LPR Technology:** DIXON recommends that NTPUD leverage LPR technology in support of parking enforcement. LPR cameras can be fixed-mount (to a pole, for example), vehicle-mounted, or handheld (in the form of a mobile phone application). While NTPUD does not have the authorization to issue formal citations, fixed-mount LPR technology can still be installed to gather data and alert County parking enforcement of potential violations. More about this process is discussed in the following “Enforcement” section.
- **CMS Usage:** To provide free parking for CFD residents, NTPUD would need to add the applicable license plate numbers to a whitelist on the CMS that Placer County uses. NTPUD does not need direct access to the CMS or to procure a CMS; this process could be a regular, manual submission of a list of license plate numbers to Placer County or automation could be developed. The two agencies should discuss and establish the ideal protocol in consultation with Placer County’s CMS vendor.
- **Wi-Fi Hotspots:** DIXON recommends NTPUD consider adding directional Wi-Fi access points and repeaters in key locations, such as around parking kiosks, to support paid parking transactions. For mobile app and Text-to-Pay options, Wi-Fi hotspots could offer the public a 15-minute timed access period to complete payment without relying on cellular service. These hotspots would improve connectivity during peak season. If Tahoe Transportation District (TTD) implements Starlink, NTPUD could leverage it for further coverage enhancement.
- **Park Tahoe:** TTD launched Park Tahoe, a regional parking program to streamline the paid parking experience around Lake Tahoe by enabling visitors to use the same mobile app to pay at multiple key destinations. NTPUD could adopt the same vendor as TTD and Placer County, creating a unified, recognizable brand for Lake Tahoe parking, increasing public awareness of parking options, enhancing the experience for repeat and multi-site visitors, and simplifying revenue management.

Enforcement

- **Citation Issuance:** NTPUD does not currently have the authority to issue parking citations and the road to implementing parking enforcement can be a long-term discussion. Placer County also does not currently have the staffing levels to regularly support NTPUD’s parking enforcement needs. However, it is important to establish some form of enforcement to ensure users comply with parking regulations. Without consistent enforcement, NTPUD is likely to continue to see low compliance for paid parking from locals who are not CFD residents given their familiarity with current operations.
 - **Enforcement Plan:** DIXON recommends NTPUD be included in Placer County’s overall parking enforcement efforts in North Lake Tahoe. Placer County’s Department of Public Works, Code Enforcement, and Sheriff’s Office are collaborating with State Parks and California Highway Patrol to ensure that all agencies have a shared set of enforcement practices; this is a regional effort to manage parking holistically. NTPUD and Placer County are encouraged to

discuss terms and expectations on including NTPUD properties in the County's North Lake Tahoe enforcement plan. In this scenario, NTPUD would collect paid parking revenues while the County retains citation payment revenue from citations issued on NTPUD property. NTPUD could elect to allocate a portion of its paid parking revenue to support the County's enforcement resources. Further discussion is needed to determine the best course of action regarding citation management between the two agencies.



NTPUD and Placer County have initiated discussions to identify NTPUD's enforcement staffing needs for Summer 2025 and beyond.

- **Alternative to Enforcement:** If NTPUD would like to begin improving compliance before an agreement with Placer County can be established, the alternative is to focus on education and presence. NTPUD staff could function as Parking Ambassadors and rove around parking kiosks and the parking lots to demonstrate active supervision; however, this would require higher levels of NTPUD staffing. An alternative that was recently implemented by TTD for the short-term is to issue invoices to cars with license plates without a valid parking session to demonstrate the vigilance of staff. Invoices are requests for payment and compliance is discretionary, while citations require action per the California Vehicle Code (whether it be payment or an appeal) by a due date or the recipient is subject to late fees, towing, vehicle registration suspension, and/or other penalties.

What is Automated Parking Enforcement?

Toll roads and bridges, such as the Bay Bridge, use LPR technology to record license plates of traveling vehicles and automatically mail an invoice or deduct payment from the driver's prepaid account. Currently, LPR cameras alert a parking enforcement officer of a violation, and the officer must verify, write, and physically serve the citation onto the vehicle.

In recent years, there have been discussions of translating the tolling concept into "automated parking enforcement" such that citations can be automatically processed and mailed to the registered vehicle owner without the involvement of the officer. At this time, the California Vehicle Code enables automated parking enforcement by LPR at transit-only travel lanes, transit stops, and bike lanes only. As such, it is not legally permissible for agencies like NTPUD to implement automated parking enforcement in off-street parking facilities like the NTRP and TVRA lots.

- **Enforcement Staff Deployment:** Parking enforcement should regularly patrol the parking locations 2-3 times per day, especially during weekends, holidays, special events, and other peak demand days. Enforcement staff should leverage LPR technology to scan the license plates of parked cars and identify which vehicles may be in violation of parking regulations. Consistent enforcement improves compliance with parking regulations, mitigates unpaid use, and improves traffic flow. Staff should take an educative approach that helps all park users understand and comply with regulations moving forward.

- **Grace Period for Payments:** DIXON recommends NTPUD implement a 30-minute grace period when issuing citations. Due to connectivity issues throughout the facilities, visitors may experience any payment delays due to connectivity. The grace period would reduce inadvertent violations, appeals, and related customer frustrations.

Wayfinding & Signage

- **“Paid Parking Area” Signage:** DIXON recommends NTPUD install visible signs that state “Paid Parking Area,” “Now Entering Paid Parking Area,” or other similar messages at all entrances and main access points to the facilities. A clear indication of the parking fee requirement will set expectations and promote compliance. Signs should also include information on the different payment methods, where to find parking kiosks, and reminders to note the license plate number.
- **“Day Use” or “Daily Rate” Language:** DIXON recommends NTPUD leverage either of the proposed terms where appropriate to inform users of the all-day rate structure.
- **“No Overnight Parking” Signage:** As both facilities are for day use only, DIXON recommends NTPUD ensure that posted policies indicate that there is no overnight parking allowed.
- **“Remember Your License Plate”:** Signage should encourage users to note down their vehicle license plate numbers to register their paid parking sessions.

Additional Strategies for North Tahoe Regional Park

The North Tahoe Regional Park area offers a variety of amenities and services, including the Tree Tops Adventure Park concessionaire, baseball fields, tennis courts, a playground, and direct access to hiking trails and sledding hills. The park provides 270 vehicle parking spaces and two bus or RV parking spaces, excluding summertime Overflow Lot. In the winter, demand for the ten spaces available by the park entrance for the Mellow Meadow sledding area exceeds supply. Parking demand peaks in the summer for tournaments and during holidays and weekends in the winter. Parking payments are typically deposited by users into an iron ranger or made at the park entrance booth when it is staffed by an attendant on peak days.

From December 2023 to March 2024, NTPUD implemented a peak parking pilot that was a major success, both operationally and financially.⁴ On weekends and holidays, NTPUD applied a \$20 peak use fee, and staffed the upgraded booth from 9am to 3pm to collect fees, monitor park use, provide visitors information, distribute park maps, and gather visitor feedback. Peak visitation and entrance congestion occurred between 10 am and 1 pm, with the busiest day seeing 294 vehicles enter. The recommendations for paid parking infrastructure, operations, and public education in this memo are intended to improve the traffic flow at the park entrance and alleviate congestion.

⁴ The pilot saw a 266% increase in total revenues collected when compared to the 2022-2023 season.

Policy

- **Visitor Pricing:** DIXON recommends NTPUD consider increasing the NTRP parking fee to \$10/day in alignment with the pricing at TVRA and nearby Kings Beach State Recreation Area.
- **Peak Pricing:** During peak usage days, DIXON recommends NTPUD consider increasing the rate. In the winter, premium parking, specifically the popular Mellow Meadow spaces, should be charged a premium during the peak sledding season given the convenience and demand of the location. Implementing the technology discussed in the previous “General Paid Parking Strategies” section supports NTPUD in implementing a dynamic pricing model, where rates can be adjusted immediately using the paid parking system’s backend.

Figure 2. North Tahoe Regional Park Lots



What is Dynamic Pricing?

Dynamic pricing is a parking management strategy where paid parking rates are adjusted periodically to balance supply and demand with the goal of achieving an occupancy rate of 85%. 85% occupancy is an industry standard benchmark to ensure there is always parking available while ensuring high utilization of the parking inventory.

Prices can be updated according to various cadences, such as multiple times a day, daily, weekly, monthly, or seasonally. For recreational areas like NTPUD’s properties where all-day parking is common, it is not advised to change rates too frequently or with too little notice as visitors likely plan ahead. It is best practice for an agency to post the range of pricing (e.g., a minimum and maximum rate) and/or the increments at which the rates may increase or decrease. Dynamic pricing should be posted online, such as on the agency’s website, to inform visitors of the expected rate rather than showing them only at the pay station.

- **Park Supporter Pass:** Few recurring visitors purchase this pass option as the lack of enforcement means they can typically avoid paying for parking. When parking enforcement is implemented, NTPUD will likely see an increase in popularity for this pass option. This pass should become an annual pass and be priced at \$110 per year.
- **Tournaments & Field Rentals:** Sports organizations and youth sports teams can submit a request in advance for approval to rent or use the baseball and multipurpose fields. Generally, NTPUD has a Regional Partner rate for game and practice field rentals where the parking fee is waived. For larger tournaments that predict a high volume of vehicle

traffic entering, DIXON recommends NTPUD to charge an additional fee to support the costs of staffing the parking areas to assist with traffic control and parking compliance.

- **Tahoe Treetop Adventure Parks:** Tahoe Treetop Adventure Parks is currently a concessionaire in NTRP. Customers book activities in advance and are not required to pay an additional amount for parking as the concessionaire pays a \$5/person fee to NTPUD (\$7/person starting June 1, 2025). These customers are considered to have a valid parking session for the day of their activity. Upon completing the booking process for an activity reservation, the concessionaire should offer the customer a parking validation code for one day of free parking in NTRP. Upon parking in NTRP, the customers should register for a parking session with their license plate and apply the validation code for free parking. NTPUD and the concessionaire will need to collaborate on the implementation.
 - **Concessionaire Contract:** The existing contract between NTPUD and the Concessionaire may require an amendment to ensure that any changes to parking fees or operations are accurately reflected.

Enforcement

- **Parking Ambassador:** During peak times, an NTPUD staff member is present at the booth by the park entrance to collect payments and provide users with information. With the implementation of kiosks and mobile payments, staff are no longer required to collect payments and could take on a customer service role to assist users and educate them about payment methods.

Technology

- **Parking Kiosk Locations:** It is recommended that the NTPUD install at least four (4) parking kiosks to begin with. In the summer, there should be one kiosk at the park entrance replacing the existing iron rangers, one at the lower restrooms, and two at the upper restrooms (see Figure 3). In the winter, DIXON recommends NTPUD shift one kiosk from the upper restrooms to the park entrance to meet increased winter sledding demand. All iron rangers should be removed. After implementation of paid parking technology, DIXON recommends NTPUD monitor usage of the different payment methods to evaluate whether additional kiosks should be installed. DIXON estimates that 8-10 kiosks could be a more appropriate quantity to manage the quantity of spaces in the park.

Figure 3. Proposed Location of Kiosks at the NTRP Entrance (left) and Restrooms (right)



- **LPR Technology:** NTPUD is recommended to consider implementing license plate recognition (LPR) technology to strengthen enforcement across the park. Specifically, fixed-mount LPR cameras at the entrance of the park would synchronize with the paid parking system and inform the enforcing agency of potential parking violations, such as a vehicle that has entered the park for more than an hour without a valid parking session showing up. This could initiate a patrol round in order to maximize the use of enforcement resources. Generally, LPR would streamline monitoring of parking compliance, provide valuable data on parking usage, and enhance overall management, particularly during peak times. It is worth noting that the enforcement agency would utilize vehicle-mounted LPR when patrolling.
- **Parking Reservations System:** In the long-term, NTPUD could consider a parking reservation system here to allow “pay before you arrive” options, improving demand forecasting and readiness for high-traffic days. A premium reservation fee could be added for the convenience of securing a parking space in advance. This system could be trialed on peak demand days, like Fourth of July weekend or other high-traffic weekends where overflow parking is historically activated.

Wayfinding & Signage

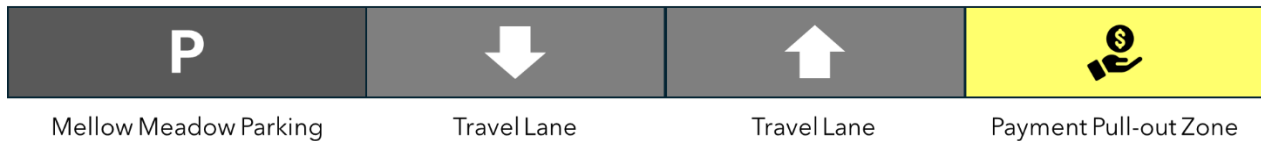
- **Overflow Signage:** Temporary A-frame signs that direct visitors to the overflow lot on the park’s north side would be useful during large events when NTPUD anticipates high demand. In the overflow lot, there should be paid parking signage that informs visitors of how to pay and reminds them to remember their license plate number for a smooth transaction process.
- **Drop-off Points:** To manage traffic effectively, DIXON recommends NTPUD establish clearly marked drop-off points near key areas like the Mellow Meadow sledding area and the paved snow removal site. This will help alleviate congestion, especially during peak times when parking demand is highest.

- **"Did You Pay?" Reminders:** DIXON recommends NTPUD place reminder signs along major pedestrian routes, such as paths to fields or restrooms, to prompt visitors to confirm parking payments. These reminders can help reduce non-compliance by keeping payment top of mind for park visitors.

Figure 5. Restriping at Park Entrance for Mellow Meadow Spaces (left) and Pull-out Zone (right)



Figure 4. Donner Road Street Section (Westbound) In Front of Park Entrance



- **Striping:** Prior to the winter season, NTPUD restripes the parking spaces by the Mellow Meadow area and adds diagonal lines to indicate “no parking” by the Caltrans snow removal site. Given the width of this area, NTPUD has the flexibility to add a pull-out zone so users can complete their parking payment without impeding traffic. The street section in Figure 5 suggests how the road width may be used.

NTPUD has already striped this pull-out zone in advance of the coming winter season. Figure 4 shows the completed striping.

- **Additional Payment Pull-out Zone:** On peak days, NTPUD could set up a secondary payment area with designated spaces at the NTPUD office parking lot. Visitors would stop at designated 5-minute spaces to pay before continuing up Donner Road, allowing them to bypass the main entrance line. Staff could request proof of payment at the kiosk if enforcement is limited. Staff should place temporary signage on Donner Road and payment instructions at parking spaces to guide users.

Figure 6. Potential Additional Pull-out Zone Spaces



Additional Strategies for Tahoe Vista Recreation Area

The TVRA offers day-use parking for the boat launch and the beach on the lakeside of SR 28. The parking lot provides 41 vehicle parking spaces and 21 elongated spaces for vehicles with attached boat trailers, ensuring ample capacity for visitors. Beachgoers pay the rate for parking in Table 1, while boat launch users pay the launch fees (which include parking) in Table 2.

Figure 7. TVRA Parking Lot



Policy

- Review Boat Launch and Parking Rates:** While boat launch fees are fixed by the State, NTPUD can adjust the environmental impact fee that is associated with parking. DIXON recommends NTPUD review the boat launch daily use and season pass rates to ensure that the supplemental parking fee is equivalent to \$10/day, and an appropriate seasonal parking rate. Typically, oversized vehicles are charged an additional fee; in this scenario, an elongated boat plus trailer space could be set at a higher fee than \$10/day. DIXON recommends NTPUD determine whether it is interested in increasing the supplemental parking fee to \$15/day to address this. This is another opportunity to implement dynamic pricing.
- Attached Boat Trailers:** Posted signage in this parking lot should require boat trailers to remain attached to vehicles while parked to prevent long-term storage issues of dropped trailers.

Table 2. TVRA Boat Launch Fees

2024 Rates	Resident Rate	Non-Resident Rate
Daily Use Fees (Single Launch/Retrieval or Retrieval Only)	\$17 per vessel/ per launch/retrieval	\$60 per vessel/ per launch/retrieval
Launch Rates (Season Pass)	\$170 unlimited launches	\$600 unlimited launches

Enforcement

- Parking Ambassador:** While the boat launch side of the facility is always staffed, the parking lot could also benefit from the presence of a Parking Ambassador, especially during weekends and peak periods.
- Vehicle and Trailer Plate Tracking:** To address dropped trailers, NTPUD can request that the paid parking vendor require both the license plate of the primary vehicle and the boat trailer to be associated with paid parking sessions.
- Enforcement of Day-Use Policy:** To enforce no overnight parking, NTPUD is recommended to establish a clear closing time for the parking lot (for example, one

hour after the boat launch closes) and conduct one patrol round after this time. Having clear posted signage will help the public comply with parking regulations.

- **Loading Zone Enforcement:** NTPUD has posted signage for each loading zone space on the boat launch side of the facility; however, there continues to be violations, typically by local vehicles. To improve compliance, the NTPUD staff sitting inside the booth should occasionally walk around the site and advise users. If NTPUD staff receive authority to write citations, then it is encouraged that citations for loading zone violation be issued alongside an educational flyer advising of parking on the other side of SR 28.

Technology

- **Parking Kiosk Location:** It is recommended that one (1) parking kiosk be installed on the sidewalk as identified in Figure 8. Proposed Location of TVRA Kiosk to capture users as they walk from the parking lot towards the boat launch. Any existing iron rangers should be removed.
- **Combining Fee Payments:** DIXON recommends NTPUD implement a paid parking system capable of processing both parking and boat launch fees in a single transaction. This simplifies the payment process for boating and beach users, enabling them to use the parking kiosk and associated mobile payment options for day-use and season passes. For boat launch users, the paid parking technology should request both the vehicle and trailer license plate numbers in the event of a dropped trailer. For those who purchase season passes, the plate information will be added automatically to the list of validated plates for TVRA parking, and the user will not have to initiate a parking session every visit. CFD residents will automatically receive the appropriate rate as the system will recognize the license plate entered, as long as the CFD resident has registered in advance for their benefit. If not, CFD residents should speak with the Parking Ambassador in the boat launch booth.

Figure 8. Proposed Location of TVRA Kiosk



Wayfinding & Signage

- **Clear Signage for Mobile Payment:** NTPUD is recommended to leverage mobile payment at this location and install prominent signage throughout the lot to guide visitors to mobile app and Text-to-Pay options. QR codes should be avoided to prevent fraud; signage should focus on providing simple, clear payment instructions.
- **Post Operating Hours:** DIXON recommends NTPUD post signage specifically indicating the hours the parking lot is open to reduce any ambiguity about when vehicles must be removed by to prevent violating the “no overnight parking” policy.

Implementation Guide

Below is a phased implementation plan for the recommendations outlined in this memo, categorized into near-term, mid-term, and long-term actions. This structure is designed to help NTPUD prioritize and sequence efforts to modernize and enhance parking management at North Tahoe Regional Park and Tahoe Vista Recreation Area. The recommendations aim to improve parking compliance, streamline payment processes, enhance enforcement, and create a better overall experience for visitors.

- **Near-term actions** focus on quick wins that can be implemented immediately.
- **Mid-term actions** address initiatives that require moderate coordination and resource allocation.
- **Long-term actions** involve strategies that require significant planning, infrastructure development, and inter-agency collaboration.

Each phase is designed to build on the previous one, to encourage a seamless transition and maximize impact over time. This implementation guide is intended to be adaptive and strategies outlined should be considered with ongoing evaluation to accommodate shifts in user behavior. NTPUD is encouraged to adjust the implementation approach as needed to design a program that best fits the unique local conditions.

Near-Term Solutions

- ❑ **Update and Optimize Parking Pricing.** Review the recommended increases to the NTRP parking fee and TVRA supplemental parking fee. Continuing the winter peak pricing strategy is encouraged. NTPUD can continue to conduct annual rate assessments based on regional trends and parking utilization.
- ❑ **Assess Enforcement Fee for Large Tournaments.** NTPUD should consider raising the fee associated with high-traffic events to better support staffing for parking and traffic control.
- ❑ **Prepare and Deploy Updated Signage.** Some of the following steps are applicable to the winter season, and some are intended to be preparations for the summer season.
 - ❑ **Place more signs regarding paid parking.** At all park entry points, signs should state “Paid Parking Area” or “Now Entering Paid Parking Area.” Signs can include key details such as payment policies, operating hours, “No Overnight Parking” rules, and clear terminology like “Flat Fee Parking” to communicate the all-day rate structure transparently. “Did you Pay?” reminder signs could be placed along major pedestrian routes, such as paths to fields or restrooms, to prompt visitors to confirm parking payments.
 - ❑ **Consider marking drop-off points by Mellow Meadow.** If congestion continues at the Mellow Meadow sledding area, consider placing signs encouraging drop-offs and directing vehicles to park in available spaces ahead.

- ❑ **Place A-frames to direct summer overflow parking.** Design A-frame signs to guide visitors to summer overflow parking areas during high-demand events.
- ❑ **Update TVRA signage.** Post signage requiring boat trailers to remain attached to vehicles. Post signage clearly stating the opening and closing hours of the parking lot.
- ❑ **Train and Deploy Parking Ambassadors.** Train staff to serve as Parking Ambassadors who provide supervision, assist visitors, and promote compliance with parking rules. To enhance compliance, consider issuing invoices for vehicles without valid parking sessions as a non-enforceable measure to promote awareness.
 - Supports “Procure and Install Paid Parking Infrastructure”
 - ❑ **Improve Parking Ambassador presence at TVRA.** Consider having staff walk through the TVRA parking lot a few times per day at weekends and peak periods to demonstrate an active presence. Staff on the boat launch side should occasionally walk through the site to discourage parking at loading zones.
- ❑ **Start Talks With Tahoe Treetop Adventure Parks.** Initiate discussions to coordinate a system where activity participants receive a voucher that can be entered into pay stations once Pay-by-Plate parking is implemented.
 - Supports “Transition to Pay-by-Plate Approach”
- ❑ **Request license plates from passholders.** Begin requesting all pass purchasers to provide their license plate information as a default.
 - Supports “Transition to Pay-by-Plate Approach”
- ❑ **Reach out to TTD regarding the Park Tahoe Program.** NTPUD could engage with TTD to discuss program requirements, vendor compatibility, and implementation timelines.
 - Supports “Procure and Install Paid Parking Infrastructure”

Mid-Term Solutions

- ❑ **Install Wi-Fi Hotspots.** This includes directional Wi-Fi access points and repeaters around parking kiosks to support transactions and timed public Wi-Fi access for mobile payments.
 - Supports “Procure and Install Paid Parking Infrastructure”
- ❑ **Procure and Install Paid Parking Infrastructure.** This includes the procurement and installation of pay stations and mobile payment options.
 - ❑ **Evaluate and select a paid parking vendor** that offers the features identified in this memo.
 - ❑ **Install pay stations** in the locations recommended by DIXON.

- ❑ **Install parking payment process signage** to guide visitors through the mobile payment and parking kiosk payment processes. Include wording such as “Remember Your License Plate.”
- ❑ **Train Parking Ambassadors** to assist visitors with paid parking, especially during the initial rollout. At TVRA, designate a Parking Ambassador to conduct a patrol round after the parking lot’s designated closing time.
- ❑ **Regularly review usage data and gather visitor feedback** to determine if additional pay stations or location adjustments are needed.
- ❑ **Transition to Pay-by-Plate Approach.** At this point, all transactions would be linked to license plates for both payment and enforcement to improve efficiency, streamline pass management, and unify fee collection.
 - ❑ **Integrate pass purchases into the Pay-by-Plate system.** Input information regarding existing passes and their associated license plates into the paid parking system.
 - ❑ **Update two-year passes to be annual.** The duration of a pass and annual price of a pass would need to be updated throughout.
 - ❑ **Launch validations process with Tahoe Treetop Adventure Parks.** Collaborate with the concessionaire and paid parking vendor to test and implement the parking validation codes feature.
- ❑ **Leverage LPR Technology for Parking Enforcement.** Install two (2) fixed-mount LPR cameras at the park entrance (to capture entry and exit) to gather data on parking behavior and support future enforcement planning.
 - Builds on “Transition to Pay-by-Plate Approach”
 - Supports “Integrate with Placer County’s Regional Enforcement Plan”
- ❑ **Collect license plate information from CFD Residents.** Create an online or physical application process for CFD residents to submit their license plate numbers. This application should be user-friendly, ensuring residents can easily register their vehicles.
 - Supports “Integrate with Placer County’s Regional Enforcement Plan”
- ❑ **Consider the need for additional payment pull-out zones.** When mobile payment is available and if congestion continues at the park entrance, NTPUD could consider implementing the additional payment pull-out zone suggested in this memo.

Long-Term Solutions

- ❑ **Integrate with Placer County’s Regional Enforcement Plan.** Continue discussions with Placer County regarding a unified enforcement approach, targeting Summer 2026 implementation.

- ❑ **Establish CMS Protocol for CFD Residents.** Work with Placer County on integrating CFD residents' license plates into the CMS for free parking.
- ❑ **Target the 85% Occupancy Rate.** Utilize insights from LPR and paid parking technology data in the annual rate assessments to target the 85% occupancy rate.
→ *Builds on "Procure and Install Paid Parking Infrastructure"*
- ❑ **Consider Installing Additional Parking Kiosks.** NTPUD should consider expanding the number of kiosks based on usage data to improve coverage.
→ *Builds on "Procure and Install Paid Parking Infrastructure"*
- ❑ **Consider a Parking Reservation System.** If there continues to be congestion at the park entrance following implementation of the recommended paid parking infrastructure, NTPUD can evaluate a parking reservations system to enable "pay before you arrive" options.