

This report presents a preliminary assessment of the local economic impacts of the Montecito mudslides that occurred in early January 2018. We estimate the monetary damages to residential and commercial buildings and examine the likely short- and long-term effects on local commerce, employment, and government finances.

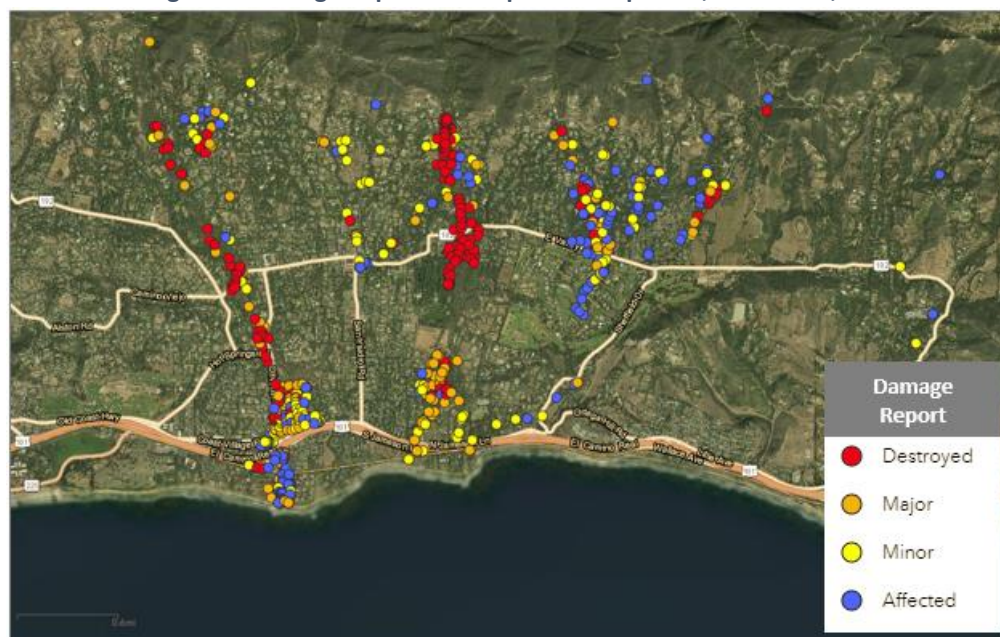
Robert D. Niehaus, Inc. (RDN) is an economic consulting company based in Santa Barbara, CA ([www.rdniehaus.com](http://www.rdniehaus.com)). We specialize in regional and resource economic analysis for public/private agencies and utilities. For more information, please call (805) 962-0611 or email [info@rdniehaus.com](mailto:info@rdniehaus.com).

## The Economic Impacts of the Montecito Mudslides A Preliminary Assessment

Following the massive Thomas Fire, which burned through more than 280,000 acres and destroyed hundreds of buildings, Santa Barbara County faced a new challenge. On January 9<sup>th</sup>, 2018, heavy rains poured down the Santa Ynez mountains laid bare by the fires, triggering debris flows that killed 21 persons (with two more missing and presumed dead), obliterated or damaged hundreds of buildings, and inundated US Highway 101 (Bolton, 2018b).

The mudslides and subsequent shutdown of US-101 until 22 January had a significant impact on Santa Barbara County's economy. Besides causing hundreds of millions of dollars in damage to homes and commercial properties, the mudslides also cut off the main route of transportation for commuters, tourists, and commercial traffic. Many businesses closed or reduced their operating hours during this period. We estimate that the closure of US-101 cost local workers an upper bound of \$25-30 million in lost wages alone. While the impacts on local tourism were also substantial, we expect the number of visitors to return to normal levels by the summer.

Figure 1. Damage Reports for Impacted Properties, Montecito, CA

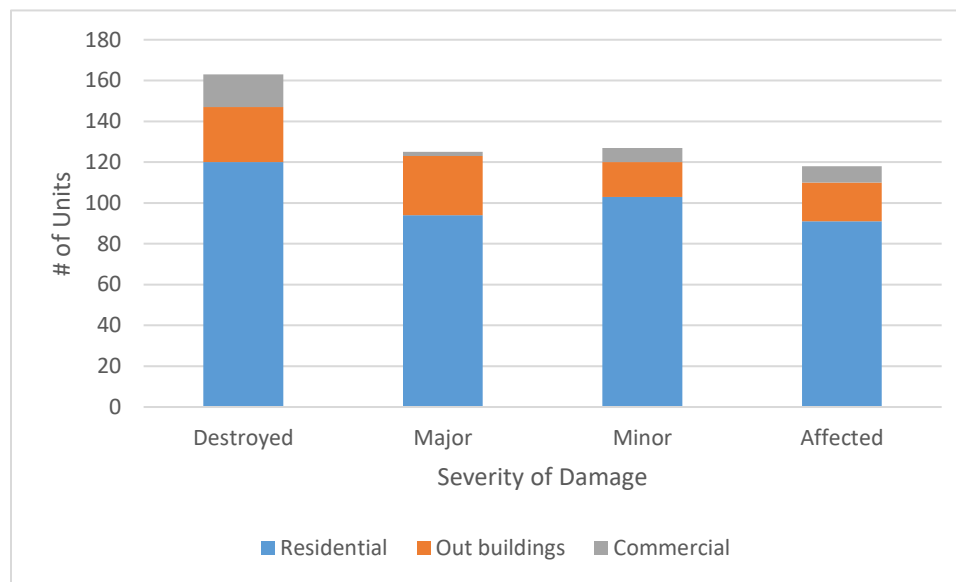


Source: Santa Barbara, County of, 2018a.

## Property Damage

The mudslides caused significant destruction in Montecito, where an estimated 214 residential buildings were majorly damaged or destroyed and another 194 suffered minor or cosmetic damage. Figure 1 displays a map of Montecito, overlaid with the location and degree of damage recorded at each property. County inspectors report that 33 commercial buildings were damaged, of which 18 were majorly damaged or destroyed. An additional 92 outbuildings (e.g. garages and sheds) were damaged, including 56 either majorly damaged or destroyed (Santa Barbara, County of, 2018a; Yadegari and Hayden, 2018). Figure 2 charts the distribution of damaged structures by severity and building type.

Figure 2. Distribution of Damages by Building Type



Source: Santa Barbara, County of, 2018a; Yadegari and Hayden, 2018.

The value of commercial properties impacted by the mudslide totals \$208 million (mostly hotels). Of the residential buildings impacted by the disaster, over 50 percent were built between 1945 and 1975. Updated building codes and material requirements will add to construction and repair costs. We estimate that the cost of rebuilding and/or repairing damaged residential properties may reach \$177-\$204 million.

Our estimates exclude debris removal, landscaping, repairs to outbuildings, and other external repairs. For landscaping, the cost of removing hundreds of thousands of tons of mud and debris may run into the tens of millions of dollars. Additionally, any local dumping of mud and debris will likely face pushback from communities over fears of toxic chemicals or bacteria (Hodgson, 2018). Alleviating those fears may require expensive testing or mitigation strategies which will further increase the cost of cleanup.

While those who evacuated the area were able to return home by early February, work to remove debris and mud will continue for months to come. On the positive side, the need for crews to clear debris and repair or demolish homes affected by the mudslides will serve to benefit workers, especially in lower-paying industries such as construction and landscaping. We can expect that the construction industries will command a premium for at least a year owing to the increased demand. Local supporting industries such as heavy equipment operators and suppliers of hardware and materials will also see an increase in

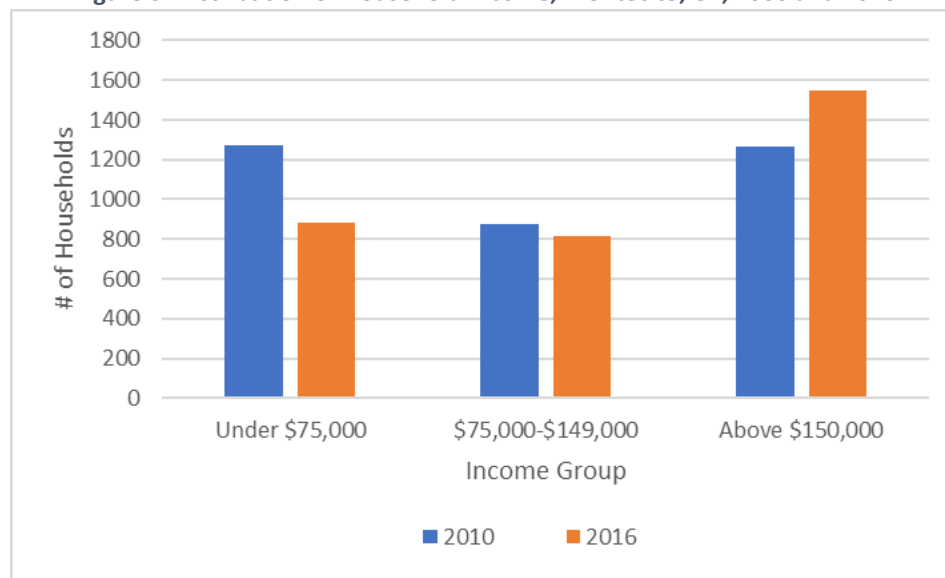
demand. These increases should more than offset the wages lost by those who were forced to suspend existing construction projects during the highway closures.

Funding the recovery may prove challenging. While State and Federal agencies will likely reimburse the County for most of the cleanup expenses, they may not cover all expenses, nor the secondary and tertiary effects of reduced tax collection, fees for usage of public property, or other impacts. Reimbursements for private individuals are also uncertain. Insurance companies have indicated that they are willing to cover flood damage resulting from the Thomas Fire, but such payouts will likely be determined on a case-by-case basis (Yamamura, 2018). Some property owners may face months or years of administrative battles. Those who do not have insurance that pays out immediately may need to take out a loan to cover the cost of clearing their property. As the mudslides and flooding were concentrated along creek beds, homeowners in these highest risk areas may also face new regulatory requirements that increase the cost of rebuilding, or prohibit new construction entirely (Hayden, 2018).

Home prices in Montecito are among the highest in the country. High-income households that were displaced by the mudslides may temporarily increase demand for high-end housing, but they will likely have a limited impact on the County's housing prices more generally. For poorer residents displaced by the disaster, however, returning home is more difficult. Weeks spent without work, or working but living in a hotel, or with a significantly increased commute, significantly strained these households' resources. Landlords may also raise rents to help cover their own repair costs.

Figure 3 charts the distribution of Montecito residents' household incomes as of 2010 and 2016. During this period, households making less than \$75,000 decreased by 30 percent, as residents relocated out of the area for lower-cost cities such as Carpinteria, or further south to Ventura, Oxnard, or Camarillo. Meanwhile, the number of households making more than \$150,000 increased over 20 percent (U.S. Census Bureau, 2018a). We expect that the fallout from the mudslides will accelerate the concentration of more affluent residents.

**Figure 3. Distribution of Household Income, Montecito, CA, 2000 and 2016**



Source: U.S. Census Bureau, 2018a

## Effects on Local Government Finances

The City of Santa Barbara spent \$7 million in emergency response to the mudslides, and another \$2 million in response to the Thomas Fire. Businesses in the affected area are estimated to have lost \$10 million in sales in December, and another \$5 million in January, reducing sales tax collections throughout the County. As a result, the City of Santa Barbara estimates that it lost \$1.5 million in sales and occupancy taxes due to the disasters (Molina, 2018).

The mudslides' long-term effects on local government finances are mixed. On the positive side, rebuilding and repair will increase the number of permit applications (and associated fees) submitted in the coming months. Additionally, repair and reconstruction of older properties may drive up their assessed value, increasing property taxes in the long run. However, such increases will take time to fully materialize, whereas most of the losses were felt up front (Hamm, 2018). The increased purchase of construction materials and equipment will also provide increased sales taxes to the County government, providing an estimated \$1 million to offset revenue lost during the road closure and evacuations, as well as some of the revenue lost as residents decrease consumption of other goods to offset uninsured reconstruction costs.

The cost of County equipment and personnel engaged in cleanup will weigh on County budgets, although as much as 94 percent of the costs may be reimbursed, either by the Federal Emergency Management Agency (FEMA) or the California Governor's Office of Emergency Services (Cal OES) (Molina, 2018). These reimbursements will help minimize the impact on local government.

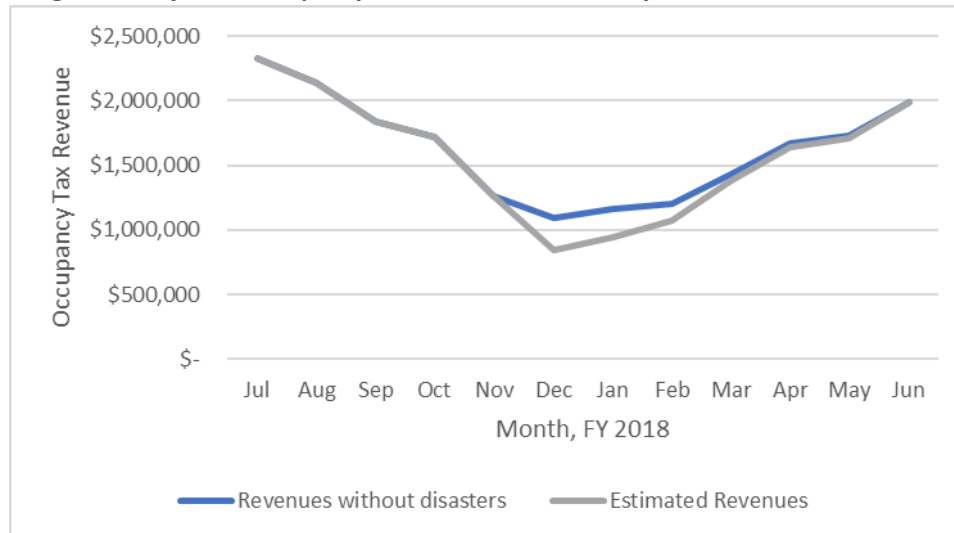
On the negative side, however, the extensive use of construction and clean up equipment will likely move up the timeline for their replacement. In addition, the mudslides also damaged local infrastructure. While Caltrans has committed to rebuilding three bridges along Highway 192, three other bridges in Santa Barbara County will also need to be replaced, adding more costs to the County budget (Magnoli, 2018). This process will likely take years to complete and will have the effect of disrupting local traffic patterns and pushing more traffic to the already congested US-101.

Effects on tourism have been negative, though their severity and duration are difficult to assess. News of the tragedy may have deterred some tourists from visiting Santa Barbara County even after the highway was re-opened. Additionally, disposal crews have been dumping mud on regional beaches, which has forced them to close due to the mud's high levels of bacteria and other runoff contaminants (Burns, 2018). In response, the City of Santa Barbara has agreed to issue tax refunds to some affected businesses. While local government received a boost in occupancy taxes in January and February from the hundreds of households that evacuated to Santa Barbara hotels, the City has offered to defer the hotels' tax collection (Molina, 2018). Together with any delay in reimbursement from State and Federal authorities, City and County budgets are likely to face continued uncertainty over the next 12-18 months.

Figure 4 shows the projected occupancy tax revenues for the City of Santa Barbara through the 2018 fiscal year as compared to the historical monthly average. We expect that any impact to tourism will be largely contained to December and January, with a smaller carryover into February-April. We project that tourism will return to its pre-disaster levels by the end of the fiscal year. We estimate that the City of Santa Barbara will receive approximately \$18.8 million in revenue from the transient occupancy tax in FY2018. This is 3.4 percent, or about \$690,000, below our estimated total revenues had the Thomas Fire and subsequent flooding in Montecito not occurred. In December, the City collected about \$840,000 in transient

occupancy taxes, significantly below the previous December amounts. This was likely due to the poor air quality following the Thomas Fire (Santa Barbara, City of, 2018). December and January combined have historically only made up approximately 10 percent of annual occupancy tax revenue, minimizing the effect of reduced occupancy in area hotels. In contrast June, July, and August together total approximately 35 percent of revenue (Santa Barbara, City of, 2018; 2015; 2012).

**Figure 4. Projected Occupancy Tax Revenues for the City of Santa Barbara, FY 2018**



Sources: Santa Barbara, City of, 2018; estimates prepared by RDN.

Santa Barbara's position as an economic and tourism hub for the region will likely spur a quick recovery. To illustrate, the average day-tripper to Santa Barbara visits 5.4 times per year and has an average household income of \$127,000 (Destination Analysts, 2018). The City of Santa Barbara has already begun planning an aggressive marketing campaign to attract these visitors back to the area (Holland, 2018).

### Effect on Local Traffic and Employment

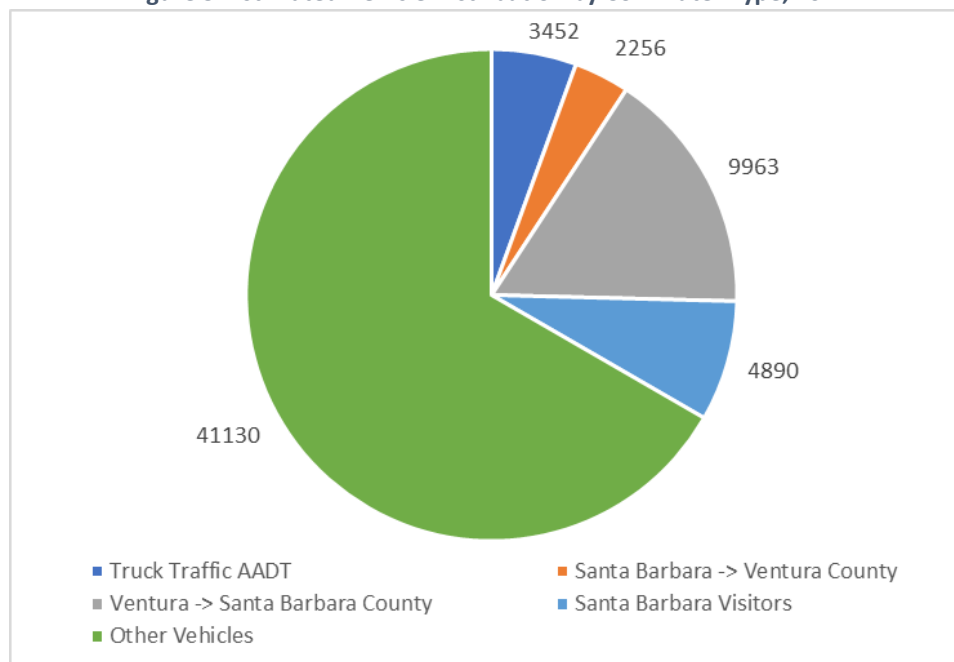
With US-101 closed between the Ventura-Santa Barbara County line and the City of Santa Barbara, workers normally commuting between Santa Barbara and Ventura (as well as Carpinteria and Summerland) were unable to travel to and from these destinations for two weeks. Between 2009 and 2015, vehicle traffic at the Ventura-Santa Barbara County line increased modestly at 0.3 percent annually. Between 2015 and 2016, however, this section of US-101 saw a 10 percent increase in vehicle traffic. In contrast, truck traffic declined significantly over the same period, including a 13 percent decline between 2014 and 2015, and an 8 percent decline between 2015 and 2016.

The California Department of Transportation estimates that the 2016 average annual daily traffic at the Santa Barbara-Ventura County line was 73,000 vehicles, of which approximately 3,700 vehicles were trucks. Because the traffic census counts the total number of vehicles at each point, we assumed that each worker was included twice (once leaving and once returning), along with all commercial trucks. We estimate that, in 2017, the average daily traffic increased to 77,400 vehicles passing across the County line, of which 3,500 were trucks. Based on commuter surveys conducted by the U.S. Census Bureau (2013), we estimate that in 2017 an average of 2,300 vehicles (2,400 workers) commuted daily from Santa Barbara to Ventura County, and approximately 10,000 more vehicles (11,500 workers) commuted from Ventura

County to Santa Barbara. Of the residual 46,000 vehicles, approximately 4,900 carried visitors between Santa Barbara and Southern California counties of Los Angeles, Riverside, San Diego, Ventura, San Bernardino, and Orange County. This figure includes those on day trips and extended stays. The remaining 41,000 vehicles consist of other drivers, such as those passing through the region, small numbers of workers from outside of the market area, and out-of-state visitors from other areas such as Arizona or Nevada.

Figure 5 shows the estimated vehicle distribution by commuter type in 2017. We estimate that approximately 105,900 visitors (approximately 8,100 visitors per day) no longer contributed to the Santa Barbara economy during the closure of US-101. These visitors represent 58 percent of daily visitors, and their absence resulted in a loss of approximately \$23.9 million in sales during this same period (Destination Analysts, 2018).

Figure 5. Estimated Vehicle Distribution by Commuter Type, 2017



Sources: U.S. Census Bureau, 2018b; California Department of Transportation, 2018; Destination Analysts, 2018; estimates prepared by RDN.

We estimate that the average one-way commuting distance among all workers between Santa Barbara and Ventura Counties is approximately 38 miles. This figure is based on the distances between cities in the two market areas and the proportion of the commuter population in each city. Based on estimates of California vehicle registrations, cars made up approximately 57 percent of commuter traffic, while light trucks were approximately 43 percent (CNCDA, 2017). The average fuel efficiency standard across all commuters was about 30 miles per gallon (NHTSA, 2011). Each vehicle averaged about 2.5 gallons per round trip, for a total of 31,000 gallons per day. At \$3.37 per gallon of regular unleaded gasoline, this amounts to approximately \$104,000 per day in fuel expenditures that were not spent, or \$1.2 million over 12 days.

If all workers were unable to reach their jobs, then the total lost earnings per week would be \$12.2 million for workers commuting from Ventura County, and another \$2.9 million for workers commuting from Santa

Barbara County. Total lost wages for two weeks would thus range from \$25 to \$30 million. These estimates are based on the U.S. Census Bureau estimates for the mean annual wage in each city, multiplied by each city's share of the total commuter population. Table 1 breaks down these impacts by city. Because some workers could work from home or use alternative transportation during the highway shutdown, i.e. the train or ferry, the above totals represent a maximum loss.

**Table 1. Summary of Lost Earnings per Week by City**

Ventura County to Santa Barbara County				
Cities	Population	% of Market	Commuters	Weekly Income
Camarillo	69,623	15.8%	1809	\$ 1,476
Fillmore	15,683	3.6%	407	\$ 912
Ojai	7,553	1.7%	196	\$ 1,560
Oxnard	207,772	47.2%	5398	\$ 848
San Buenaventura	109,275	24.8%	2839	\$ 1,275
Santa Paula	30,654	7.0%	796	\$ 851
Total	440560	100.0%	11446	
			<b>Weighted Average</b>	<b>\$ 1,069</b>
			<b>Total Lost Earnings</b>	<b>\$ 12,235,774</b>

Santa Barbara County to Ventura County				
Cities	Population	% of Market	Commuters	Weekly Income
Carpinteria	13,943	10.0%	238	\$ 1,198
Goleta	31,760	22.9%	542	\$ 1,259
Santa Barbara	93,063	67.1%	1587	\$ 1,240
Total	138,766	100.0%	2366	
			<b>Weighted Average</b>	<b>\$ 1,240</b>
			<b>Total Lost Earnings</b>	<b>\$ 2,933,840</b>

Sources: U.S. Census Bureau, 2018b; California Department of Transportation, 2016; estimates prepared by RDN.

### Future Legal Action

Currently, class action lawsuits are in the early stages against both Southern California Edison (SCE) as well as the Montecito Water District (MWD) which accuse these companies for causing or exacerbating the mudslides damages. In the case of the MWD lawsuit, damages may run between \$1 and \$2 billion, and does not include damages for personal injury or wrongful death (Bolton, 2018a). It is possible that the cases will be settled out of court, however any legal battles are likely to drag on for years, adding further expenses to both SCE and MWD's budgets. While utilities such as SCE and MWD maintain liability insurance, the scope of the wildfires and mudslides may exhaust any coverage (Worden, 2017). In response to recent fires, both Pacific Gas and Electric, as well as San Diego Gas and Electric recently sought permission from California utility regulators to pass on some of their settlement costs to consumers (Baker, 2017). Southern California Edison and possibly the Montecito Water District could follow suit depending on the outcome of their cases.

## Conclusion

Overall, we estimate that the residential property damage caused by the mudslides in Montecito will cost between \$177 million and \$204 million to fully repair and/or re-build. Repairs to residential areas will be complicated by the age of the housing stock, continued cleanup efforts, and the tight demand for skilled labor. The shutdown of US-101 between January 9th and 22nd additionally resulted in tens of millions in lost wages to workers in both Santa Barbara and Ventura Counties, and led to a significant drop in tourism in Santa Barbara County. Near-term declines in property taxes, as well as continued legal action, will pose problems for County and City budgets. Nonetheless, we do not expect a long-term negative impact on tourism, and as such there will be minimal impact on associated sales and occupancy tax revenues.

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