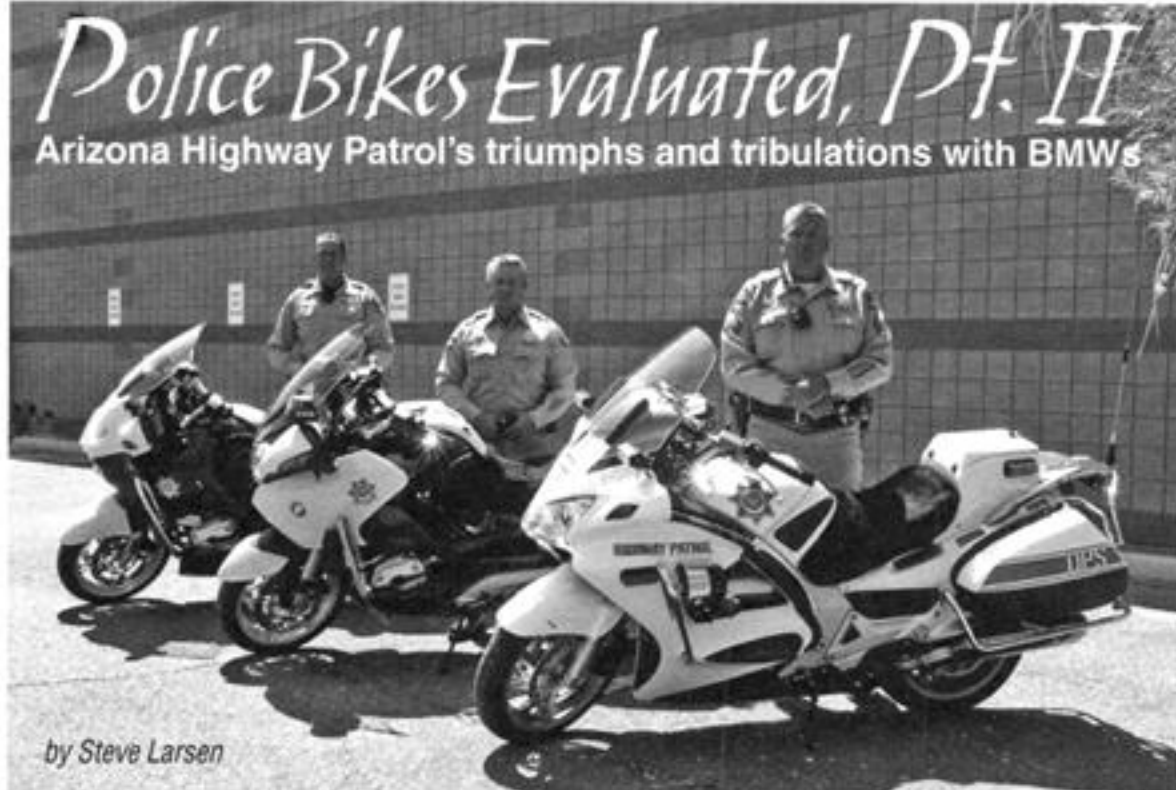


Police Bike Evaluation



by Steve Larsen

The Arizona Department of Public Safety (Highway Patrol) began swapping its aging Kawasaki KZ1000 fleet with BMWs in 2005. DPS has maintained a steady but rocky relationship with its BMWs ever since, and is now looking at Hondas (foreground) as possible replacements.

AS WE LEARNED in the first of our two-part Police Bikes Evaluated feature in last month's MCN, five years after the demise of the Kawasaki KZ1000 police bike, police departments worldwide are finally realizing that they must replace their aging fleet of police motorcycles with another brand—most likely BMW, Harley-Davidson or Honda. In Arizona, the Arizona Department of Public Safety (DPS—which operates the state's Highway Patrol) faced the same situation as the Phoenix Police Department, which we reported on last month.

The short answer to their dilemma was to purchase BMW RT1150 RT-P police models to replace the KZs, but in this installment we'll delve into the hows and whys of the DPS decision to switch to the BMWs, as well as how its highway patrol motor officers adjusted to the change. We will also see how the 1150s and their successors, the RT1200 RT-Ps, withstood the rigors of being ridden tens of thousands of miles in the Phoenix heat.

The Back Story

Before retiring in April 2009, Sergeant Larry Kenyon spent 32 years as an officer with the DPS in Arizona. Twenty-five of those years were spent as a motor officer, training supervisor or in some other capacity associated with the motorcycle group, including the supervision of the changeover from the Kawasakis to the BMWs. Kenyon discussed that transition with MCN.

"When we made the decision to go with the BMW, our plan was to transition over a three-year period," Kenyon explains. "However, early in the process we learned the state had earmarked a portion of money collected from driving-under-the-influence (DUI) offenses for safety improvements for officers. By emphasizing the anti-lock braking system (ABS) superiority of the BMW motorcycle and the potential impact on officer safety, enough 'safety money' was allocated for us to purchase 60 bikes pretty much all at once. Normally, this many new bikes would be spread over several years."

Troy Titzer, one of the lead instructors back in 2005 when the transition began, and the sergeant now heading up the DPS motor officers' group, says, "We had a couple of '98 BMW police bikes in-house for testing, even before the Kawasaki was no longer available. We'd been considering them for some time. When Kawasaki quit making their police bike, the BMW was an easy choice for us, and it seemed a logical choice."

The DPS had tested Harley-Davidsons over the years and concluded that they weren't adequate for its needs. "We did talk to Honda and tested one of their bikes," Kenyon says, "but when it came time to solicit bids, Honda was unable to provide the number of bikes required." As a result, the department purchased 40 of the 1150s and has added 20 new 1200s in the past two years.

The Transition

Initial adjustment to the BMW was a major challenge, according to Sergeant Dan Roark, one of the training instructors who now rides a 1200RT-P.

"The BMW is so much different from the Kawasaki, not just in the way they ride, but where the controls (turnsignals, lights, sirens, emergency lights) are located and the way the bikes are designed," Roark says. "The BMW uses a dry clutch vs. a wet clutch on the Kawasaki. With a wet clutch, you can feather the rear brake to maintain balance and control in low speed maneuvers. If you do that with the dry clutch, you'll quickly wear it out." Titzer adds, "The 1150 also has a brake servo system, so if you try to feather the rear brake, it gives you way more brake than you want, causing the clutch to work much harder."

Roark also says that the Kawasaki's cable-actuated clutch acts differently than the BMW's hydraulically actuated unit.

"With the Kawasaki, you can ease it out slowly where the BMW is more of an on-off switch," Roark says. "The transmissions are different. The Kawasaki is a heel/toe shifter while the BMW is a straight toe shifter. The throw is short and smooth with the Kawasaki while the shifts are much farther apart and 'clunkier' on the BMW."

Titzer adds, "With the BMW, you squeeze in the clutch only halfway, where you pull it all the way in on the Kawasaki."

To help motor officers make the transition, a two-day school was developed. The method of running low-speed cone exercises changed from "clutch, brake and throttle" to only "clutch and throttle." When attending the California Highway Patrol (CHP) motor school in California, the Arizona DPS learned the CHP had stopped teaching the clutch-brake-throttle technique years ago and now used only a clutch-throttle technique. (Editor's note: The CHP switched from the Kawasaki police bikes to BMW police motorcycles in 1997). Titzer explains, "The technique became 'get down to the right speed and use just enough clutch and minimal throttle to negotiate the obstacle or exercise you are doing without touching the rear brake.'" Roark adds, "For officers who'd been riding the Kawasaki for years, not using the rear brake was a hard habit to break. But this approach worked and we've had great success in making the transition."

They've also redrawn the exercises.

"Although the BMW is slightly shorter than the Kawasaki, it does not provide as much leverage on the handlebars. This means going from lock-to-lock on the BMW takes almost three times as long and you can't transition fast enough," Kenyon explains. Roark agrees but says, "Spread some sand over the asphalt for a rapid braking exercise and you know you will crash on the Kawasaki. With the BMW you can grab a big handful of brake and it stops, straight-up, and that's an awesome feeling."

Kenyon recalls that while the BMW was difficult in the low-speed exercises, on the long rides, everyone loved it.

"Ride the Kawasaki from Phoenix to Payson, Arizona, and you'll have trouble walking when you get back," he says. "On the BMW you're saying, 'Let's go again.'"

As a result, the DPS now schedules only one day at the track before getting its officers out on longer rides where they begin to appreciate the advantages of the BMW. The officers come back for the second track day in the second week. Titzer explains that transition issues gradually declined because new officers without years on the Kawasaki don't face as much difficulty.

"We now place far less emphasis on cone exercises in our training and focus more on real world drills, like getting the bike up to 100 mph, something they'll be doing on the highway every day," Titzer says. For example, one exercise involves entering with a lot of speed and then riding into the dirt while slowing rapidly and executing a U-turn. This mimics having to quickly decelerate and turn in a median.

Maintenance

A number of factors with the BMWs conspired to create a maintenance headache significant enough that an internal investigation was launched. The first issue was, who did the repairs and where. All Kawasaki repairs were done in-house by DPS mechanics on salary. This meant that the only costs hitting the budget were for parts—and those were cheap. A clutch on the BMW costs the department close to a \$1000 to replace whereas a clutch for the Kawasaki was less than \$100. With the BMW, all repair work had to be done by the local dealer and BMW mechanics, with the department getting the full bill. Although BMW has lightened up on that policy since, anything damaged on the BMW was expensive—bills for \$450 for a kickstand, \$800 for headlights and \$239 for mirrors shocked the department.

"On the BMW 1150, the mirror has turning signal components in it, so when it comes off, it's expensive to fix," Titzer says. "We didn't have these issues with the Kawasaki. We'd had them for so long that, if a mirror broke, an officer could ride in and we'd have another one to replace it."

The Kawasaki is protected by crash bars. When it fell over there was rarely any damage. But when the BMW goes down, it can roll over and damage the windshield and mirrors. Titzer says, "One officer tipped his BMW over in his garage when putting it on the center stand. It fell into his Honda Valkyrie and caused almost \$3000 worth of damage—in his garage!"

BMW's warranty policy has been another nuisance. Unlike the Kawasakis, where the warranty starts when the bike



While the BMW R1150 RT-P models (foreground) were fraught with problems, the R1200 RT-P is more reliable, although it is still very expensive to maintain.

goes into service regardless of when it was purchased, BMW starts the warranty clock on the purchase date. If three to four months go by before the bike is put into service, the DPS loses out on that portion of the warranty period.

Having motor officers go to a dealer for repairs became problematic as well. Titzer explains, "At first, the dealer promised to put us at the front of the line, but the reality of the situation was that this stopped after the first few months." While officers can understand the dealers' need to serve other customers, the end result was that DPS bikes sat at the shop for weeks at a time, waiting to be repaired. The department has since worked with BMW and taken on a lot more of the service itself, but it still has problems getting parts in a timely manner.

The third factor was tires—flat tires, specifically. As soon as the BMWs went into service they were inundated with flat tires—tons of them. The DPS couldn't figure out why, and every bike had to go back to the BMW dealer each time a tire needed replacing. "In a six-month period we spent almost \$75,000 on tires!" Titzer says. One officer was leaving the dealer after having a flat fixed, and before he traveled the one mile back to the freeway, he had another flat. Titzer adds, "One time I worked a detail leading a motorcycle escort with six officers behind me. Three of the six dropped out of the formation with flat tires. It was like a bad dream! I was thinking, 'By the time I finish the escort, I won't have anybody left.'"

Unlike the hard side-wall Kawasaki tires, which allow an officer to ride up to 50–60 miles back to the shop with a flat, the BMW tires required them to pull over and get towed in. Roark says that the tires go down so fast, the officers are lucky to get to the side of the road sometimes. The DPS also found the Dunlops with which the bikes were equipped did not wear well, either, with some officers getting only 4000–5000 miles on a set. Titzer says that the DPS finally determined the flats were caused by several factors.

"First, the Dunlops were a softer compound and seemed to grab stuff more," he says. "Second, the tire was almost twice as wide as the Kawasaki tire, so there was more area to pick up stuff and, third, we had a bunch of new riders who had not yet learned to stay out of emergency lanes and other areas where junk that could puncture a tire tends to accumulate."

The department has since gone to a dual-compound Metzler tire with a hard compound around the center and softer on the sides. Titzer reports the department is getting 10,000 miles or more on them, and the officers like the ride. The DPS is also teaching officers where to ride to avoid punctures. But Roark brings up another issue.

"As the BMWs get into 40,000–50,000 miles, they've begun having driveline problems, which are costing us a mint to repair," Roark says. "The parts alone are almost \$800, and it takes several hours to split the bike apart to get to it, so we're looking at \$1500–\$2000 to change out a driveline. Meanwhile, the bike and officer are out of commission for a week or more. We've raised the issue with BMW, but so far they're not acknowledging it."

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COST for BMW 1150 REPAIRS - May '09			
R1150 RT-P	Total Cost	Mileage	Cost Per Mile
45882	14,281	63,384	\$ 0.23
45883	4443	52,337	\$ 0.08
45884	13,457	56,034	\$ 0.24
45886	13,835	42,444	\$ 0.33
45887	21,128	54,612	\$ 0.39
45888	15,572	57,344	\$ 0.27
45889	8884	41,660	\$ 0.21
45890	12,854	63,300	\$ 0.20
45892	16,126	62,293	\$ 0.26
45893	10,673	49,337	\$ 0.22
45894	13,560	55,401	\$ 0.24
45896	14,200	48,505	\$ 0.29
45897	14,434	47,662	\$ 0.30
45898	11,176	34,004	\$ 0.33
45899	9459	43,184	\$ 0.22
45901	7176	27,916	\$ 0.26
45903	15,623	63,138	\$ 0.25
45904	15,988	57,775	\$ 0.28
45905	14,318	64,441	\$ 0.22
45906	9654	53,274	\$ 0.18
45907	13,367	57,265	\$ 0.23
45908	10,499	41,032	\$ 0.26
45910	15,557	53,725	\$ 0.29
45911	5998	40,708	\$ 0.15
45912	16,767	60,898	\$ 0.28
45915	10,404	43,500	\$ 0.24
45916	9670	44,083	\$ 0.22
45917	5588	66,704	\$ 0.08
45919	6771	51,435	\$ 0.13
45924	10,238	56,600	\$ 0.18
45925	5904	33,474	\$ 0.18
45926	6518	47,162	\$ 0.14
45930	6913	40,387	\$ 0.17
45931	4447	27,845	\$ 0.16
45933	3367	34,745	\$ 0.10
45935	7166	44,432	\$ 0.16
45936	7403	38,733	\$ 0.19
45937	7138	29,343	\$ 0.24
45938	6662	39,285	\$ 0.17
TOTALS	\$417,219.70	1,889,201	\$ 0.22

Titzer says that the shocks on some of the bikes have begun leaking at 25,000–30,000 miles, “and BMW is telling us this is a wear item.” Roark adds that a batch of bikes had the front brake rotors warp. “And again, BMW is telling us this is a wear item and not covered by warranty. We’d gone through hundreds of Kawasakis, and I’d never seen a warped

rotor—not one—even when we punished those brakes with run after run of high-speed braking during training,” Titzer says. “We have one bike with 60,000 miles on it, and the motor is shot. So the bike is done. We have to scrap it because the cost of the repair is more than the bike is worth.”

As the repair bills mounted, the top brass began to get concerned and started an

investigation. There was some speculation that officers were “abusing” the motorcycles, but Titzer does not feel that is the case. “I think it was the 1150s, because as we began to get the 1200s, things got a lot better. The 1200 is a better motorcycle across the board, and the guys like them better, too. It’s lighter, has more power, handles better, gets better mileage and has fewer problems.”

After listening to the complaints, MCN asked Roark and Titzer if they disliked the BMW. Titzer laughed and said, “Our former leader, Larry Kenyon, was a motorcycle enthusiast and loved the BMWs. He used to always say, ‘The BMW is a thinking man’s motorcycle.’ I would always answer him by saying, ‘Yes it is—and I’m thinking I don’t like it.’ Seriously, there is a lot to like about the BMW. After three years of riding one, I rode one of the Kawasakis last week. I’d forgotten how scary they were. The BMW is a far more stable platform, it is much safer, and the brakes are simply incredible. Riding it at speed on the highway, you feel safe. It does a good job for us. I do have some issues with the vibration at speed and the servo brakes on the 1150—I don’t like that. But I tell people that the BMW 1150 is like a race horse; at speed it is wonderful, but under 10 mph, you might as well get off and walk—it does not like to go slow.”

Roark, who rides the 1200, chimes in, “The 1200 is a lot better motorcycle than the 1150. It is much more adaptable, it’s smoother, and they fixed the servo problem on the brakes, which was a major deal. You can turn it tighter and it’s not so top heavy. That said, the BMW can drive you nuts. They are an acquired taste. BMW has its own way of doing things, and it can be quirky. It drives me crazy that every motorcycle in the world has turn signals that you manage with one thumb on one hand, but not BMW—you need both thumbs.”

By The Numbers

DPS management provided MCN with the following high-level, cost-per-bike maintenance data. It shows total repair costs, mileage and cost-per-mile on 56 of the department’s 60 bikes. Four bikes were demolished and are not on the list. The 1150s have been ridden over 1.8 million miles, an average of 48,400 miles per bike. The 1200s have logged over 340,000 miles, averaging over 20,000 miles per bike, so far. The department has spent just shy of \$475,000 to maintain the bikes (about \$8500 per bike).

But while we have provided these tables for analysis, trying to compare cost-per-

mile numbers with the data from the Phoenix Police Department won't work, and there are several reasons why:

DPS data reflect the dealership invoices—labor and parts. Work done by DPS mechanics is *not* reflected, as it is allocated to a different cost schedule. (Phoenix Police costs *do* include their own mechanics' costs as well as expenses from repairs done by dealers.)

Bikes crashed or totaled and too expensive to fix are not listed. (They *are* listed in the Phoenix Police numbers.)

Repairs made due to an accident are not included because these costs are paid by DPS Risk Management, a different department. (Accident repairs *are* included in the Phoenix Police numbers.)

Cost-per-mile (CPM) data can be informative and useful within a single department where they account and record things like labor and other costs in the same way, but it can't be used to make comparisons across departments and agencies because there is no standardization. Some departments include the initial cost of the bike in CPM, others do not. Some include fuel in CPM, others do not. Some include the labor cost when on a dealer invoice, but not when they do it themselves (e.g., Arizona DPS). As much as we'd like to be able to have a meaningful CPM to compare BMW, Honda, Harley and Kawasaki, it was impossible for us to normalize the data enough to make that calculation.

What's Next?

DPS recently obtained six Honda ST1300 police bikes to test. Arizona is running a vehicle cost analysis (VCA) study. They've picked six BMW 1200s and will compare them for 6-12 months with the Hondas. Assuming they're equivalent from a safety standpoint, they'll pick the cheapest to operate. Titzer says that he expects it to be a close call.

"The BMW 1200 has had far fewer mechanical issues [than the 1150] and a lot of the guys like them," he says. "We'd like to test the Harleys again, too, but we can't get one from Harley for a six-month test. The most they'll give us is two-to-three weeks."

Just before going to print, we checked in to see how the tests were going. Titzer tells us they just had two of the Honda ST1300-Ps in for their initial 600-mile service and the cost was \$220. "Taking the BMW in for an oil change and routine service typically costs us \$300-400, and that's for one bike," he says. "Given our budget, we're being forced to find a lower-cost solution, and the Honda might be it."

COST for BMW 1200 REPAIRS - May '09			
R1200 RT-P	Total Cost	Mileage	Cost Per Mile
45842	1232	13,812	\$ 0.09
45843	4233	19,329	\$ 0.22
45844	7935	31,125	\$ 0.25
45845	4046	16,159	\$ 0.25
45846	3552	26,018	\$ 0.14
45847	5151	29,296	\$ 0.18
45849	2271	23,903	\$ 0.09
45850	2994	17,235	\$ 0.17
45851	4100	18,393	\$ 0.22
45852	2835	19,275	\$ 0.15
45853	2953	20,502	\$ 0.14
45865	4533	24,611	\$ 0.18
45866	2546	14,974	\$ 0.17
45867	2298	16,527	\$ 0.14
45868	1672	17,438	\$ 0.10
45869	2133	17,160	\$ 0.12
45870	1629	15,981	\$ 0.10
TOTAL	\$56,112.35	341,738	\$ 0.16

Having two different brands of motorcycles in the fleet is a problem for DPS, the Phoenix Police and probably any other motor officer pool. Ideally, each department wants to be like Southwest Airlines, with only one make and one model of motorcycle. It simplifies officer training, parts inventory, training of mechanics, repair cycles, everything. "We're not like consumers who want something new and different every year," Titzer says.



The DPS has begun evaluating six Honda ST1300 police models. Early cost analysis suggests that the Honda is much more economical to maintain than the BMW.

Summary

A motor officer's assessment of the Harley was summarized by Titzer who said, "It's the perfect bike for a relaxing ride into the mountains for lunch on a

weekend, but it really is not a good fit for what we need." The Honda seems to be viewed more like a reliable appliance, "like the refrigerator in your kitchen," Kenyon says. "You don't know what brand of refrigerator you own," he says, "you just know that it always runs, and when you open it, your food is cold. The Honda is like that."

The BMW is seen as expensive to maintain, and the BMW factory is viewed as having a "my way or the highway" attitude on things like warranty start dates and details like turnsignal switch placement. MCN spoke with a good number of officers, and the BMW was the most polarizing of bikes—either loved or hated. MCN asked Kenyon, someone who's ridden professionally for 25 years, owns several motorcycles and loves to ride, which of the three new bikes he would most want to own now that he is retired, the BMW, the Harley or the Honda? He did not hesitate: "The BMW—in a heartbeat." Titzer, who also owns a personal motorcycle and loves to take it on long rides in the mountains, answered just the opposite, saying, "I wouldn't take one of the BMWs if you gave it to me."

Maybe motor officers aren't so different from civilian riders after all. ●